

**FINAL
ENVIRONMENTAL ASSESSMENT**

Martin Marietta Materials Spanish Springs Quarry Mineral Sales, Conveyor Belt, and Access Road Right-of-Way

DOI-BLM-NV-C020-2011-0005-EA

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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to assess a Proposed Action at the Spanish Springs Quarry located on Bureau of Land Management (BLM) land in Washoe County, Nevada. This Proposed Action is requested by Martin Marietta Materials Inc. (MMM) and involves two elements: 1) the renewal of a Competitive Mineral Materials Sale Contract, and 2) the construction and operation of an aggregate conveyor belt and an associated access road.

The BLM has determined that the National Environmental Protection Act of 1969 (NEPA) requires this Proposed Action to be assessed for potential environmental impacts. To this end, this EA has been prepared following the Council of Environmental Quality regulations which implement provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508) and the NEPA Handbook H-1790-1 (BLM 2008a).

This EA presents the Background; Purpose and Need; Land Use Conformance; and Statutes, Regulations, Policies, and Plans associated with the Proposed Action in Sections 1.1 through 1.5, respectively. Then, Section 2.0 describes the Proposed Action and Alternatives; Section 3.0 describes the Affected Environment; Section 4.0 discusses potential Environmental Consequences and Mitigation; and Section 5.0 presents Cumulative Effects. Section 6.0 presents Consultation and Coordination of the EA, and Section 7.0 presents References. Because the Proposed Action involves two elements, some sections of Chapter 4.0 present consequences on specific resources for each element.

1.1 BACKGROUND

The Spanish Springs Quarry is an aggregate quarry located within a portion of Section 15, Township 21 North, Range 20 (East Mount Diablo baseline and meridian) in Washoe County, Nevada (NV) (Figure 1-1). The 389-acre Quarry has been providing high quality aggregate to the Reno/Sparks construction market for more than 25 years. The Quarry currently operates on both private and public lands. MMM acquired the Quarry in 2001 and has been operating it under BLM's Mineral Materials Sale Contract Nos. N-74651 and N-85809. Previous owners operated the Quarry under Mineral Material Sales Contract Numbers N-48820 (1985) and N-60222 (1997).

Mining is anticipated to continue at the Spanish Springs Quarry for 20 to 30 more years. Current plans involve a gradual relocation of the quarrying activities from the current BLM Mineral Materials Sale area, which is in Section 15, to a "Broken Hill Extension" area that is on private property southwest of the existing operation in adjacent Section 21 (Figure 1-2). While quarrying activities are intended to gradually relocate to the Broken Hill Extension, the material processing and ancillary facilities are anticipated to remain at their current location in Section 15.

In order to connect the Broken Hill Extension area to the processing and ancillary facilities, a conveyor belt and adjacent access road are proposed. These improvements are planned to occur on a right-of-way (ROW) on public lands managed by the BLM. The ROW would be located on the same quarter-section of land in Section 15 as the Mineral Material Sale (Figure 1-3).

Quarrying at the Broken Hill Extension is anticipated to start in approximately 2017 and will entail approximately 289 additional acres. Construction of the conveyor belt system and access road is anticipated to occur close to this timeframe. MMM has submitted an application to the BLM for the use of the ROW (Application No. NVN078985).

Design specifications for the conveyor system and access road will be finalized in conjunction with the development of the Broken Hill Extension in 2017. Inclusion of this planned ROW construction in this EA report is intended to help ensure that design and construction requirements required by BLM, Washoe County, or any other Responsible or Commenting Agency are incorporated in the design and specification criteria.

The existing quarry operates under a variety of permits including:

- Mineral Materials Sale Contract No. N-85809
- Major Project Review Case No. MPR7-6-88
- Washoe County Special Use Permit SW04-024
- Stormwater Permit (General Permit NVR050000 Facility ID – 1365)
- Groundwater Discharge Permit NEV2004529
- Permit to Operate an Air Pollution Emission Source No. L58A

A request to renew the Contract for Sale of Mineral Materials No. N-85809 has been submitted to the BLM and is currently on file under Application No. NVN087320.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to allow high quality construction aggregates to continue to be sourced to the Reno/Sparks construction market. The proposed Mineral Materials Sale Contract renewal will allow for continued quarrying at the existing Spanish Springs Quarry. The proposed conveyor system and access road would allow material from the future Broken Hill Extension to be transported to the current processing facilities which are located at the Spanish Springs Quarry. The conveyor belt system and access road are expected to be used year-round.

The BLM has the responsibility to manage the surface and subsurface resources on public land located within the jurisdiction of the Carson City District Office. The acreage proposed for the Mineral Materials Sale has been designated as suitable for quarrying in the Carson City Field Office Consolidated Resource Management Plan (RMP) (BLM 2001a). The RMP does not contain constraints that conflict with the Proposed Action. The BLM is required to review the Proposed Action under the RMP management decision guidelines to ensure compliance with applicable federal laws is achieved.

Through this review, the BLM has determined that NEPA requires that this Proposed Action be assessed for potential environmental impacts. The purpose of this EA is to identify and analyze potential environmental impacts of this Proposed Action and suggest mitigation measures to eliminate or lessen such impacts. In turn, this EA is intended to provide information that is adequate to support a determination of whether a Finding of No Significant Impact (FONSI), or an Environmental Impact Statement (EIS), is warranted.

1.3 DECISION TO BE MADE

The Proposed Action involves two elements: 1) the renewal of a competitive Mineral Materials Sale Contract, and 2) the construction and operation of an aggregate conveyor belt and an associated access road. For the first action, the BLM would decide whether or not to renew the competitive Mineral Materials Sales Contract pursuant to 43 CFR 3602.47. For the second action, the BLM would decide whether to deny the proposed right-of-way, grant the right-of-way, or grant the right-of-way with modifications. Modifications may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)). As described in Section 2.1, although these are related and reasonably foreseeable projects and are addressed as a part of Cumulative Effects, they have independent utility. Therefore the BLM could renew the competitive Mineral Materials Sales Contract without authorizing the ROW. As the BLM has not yet received a Plan of Development (POD) for the conveyor belt and access road, the preliminary analysis contained in this EA may have to be supplemented with additional NEPA documentation prior to the BLM making a decision on the ROW authorization.

1.4 LAND USE CONFORMANCE STATEMENT

The Proposed Action is in conformance with the Carson City Field Office Consolidated RMP (May 2001), federal law, and BLM regulations and policy. It is the policy of the Department of the Interior to encourage the development of energy and mineral resources on lands in a timely manner to meet national, regional, and local needs consistent with the objectives for other public land uses.

The public lands in Section 15 have been identified in the BLM's RMP for potential disposal from federal ownership while the public lands in Section 22 have been identified for disposal to State or local government entities for recreation and/or public purposes.

BLM regulations include provisions to issue ROW grants in a manner that protects natural resources, minimizes undue degradation, and engages commonality with other engineering or technological developments within a proposed or established ROW. BLM policy also contains provisions to permit mineral material extraction on public land, as well as incidental occupancy, if the proposed activities do not violate the basic mandate to avoid unnecessary or undue degradation of public resources.

In consideration of mitigation measures proposed by MMM and accepted by the BLM, as well as those measures that may be additionally stipulated by the BLM, the Proposed Action is not judged to cause undue or unnecessary degradation of public lands, and may conceivably avoid

a greater degree of disruption to land surfaces otherwise speculated under alternative scenarios.

1.5 RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

1.5.1 Federal And State

This EA has been prepared under the requirements of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508) and implementing regulations issued by the Council of Environmental Quality (50 CFR 1500). It also complies with the Federal Land Policy and Management Act of 1976; planning guidance at 43 CFR 1600 and contained in the BLM Planning Manual (1600 Series); the BLM NEPA Handbook (H-1790-1); the Clean Water Act (Sections 402 and 404); the Clean Air Act; the National Historical Preservation Act (Section 106); the American Indian Religious Freedom Act; the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Safe Drinking Water Act; the Wild and Scenic Rivers Act; the Wilderness Act; the Endangered Species Act (Section 7); Executive Order 13007 on Sacred Sites; Executive Order 11988 on floodplains; Executive Order 11990 on wetlands/riparian zones; and Executive Order 12898 on Environmental Justice.

Applicable permits will be obtained by MMM for the conveyor and access road as a part of the ROW authorization from the BLM. Permits for this activity include: National Pollutant Discharge Elimination System (NPES) and Section 404 of the Clean Water Act. During the permitting process, if it is determined that the analysis in this EA is insufficient, supplemental NEPA documentation may be required prior to BLM's ROW authorization.

The existing Spanish Springs Quarry operates under a variety of federal and State permits including:

- Mineral Materials Sale Contract No. N-85809
- Stormwater Permit (General Permit NVR050000 Facility ID – 1365)
- Groundwater Discharge Permit NEV2004529

The Proposed Action is in compliance with 43 CFR Chapter II Part 2800 and 43 United States Code (U.S.C.) Section 932. Additionally, the site must comply with Nevada Division of Environmental Protection (NDEP) regulations regarding storm water control. The General Storm Water Permit issued by NDEP is required to comply with the U.S. Environmental Protection Agency (EPA) regulations, and is administered by the Bureau of Water Pollution Control of the NDEP (Nevada Revised Statutes (NRS) 445A.300 through 445A.730).

Guidance from Nevada Administrative Code (NAC) (NRS 445B) regarding emissions of dust and pollutants would be implemented by MMM for control of "fugitive dust" during the construction of the conveyor and for the access road use during the project, as well as for on-going quarry operations.

1.5.2 Washoe County

The Spanish Springs Quarry and the project site are in conformance with the Washoe County Comprehensive Plan under the Southern Washoe County Urban Interface Plan Amendment (Southern Washoe Plan) (BLM 2001b). According to the Washoe County Regional Open Space Plan (Washoe County 1994), the location of the Spanish Springs Quarry and surrounding area is not identified as significant wildlife habitat, is not known to contain historic/prehistoric cultural resources, and is not located in an area designated for open space.

The Proposed Action occurs within the Stormy Canyon ephemeral drainage, which is under jurisdiction of the U.S. Army Corps of Engineers. Stormy Canyon is designated for Recreational Use in the Southern Washoe Plan (BLM 2001b).

The Washoe County Land Use Designation for this area is General Rural (GR) (Washoe County Department 1994). The existing Spanish Springs Quarry operates under a variety of County permits including:

- Major Project Review Case No. MPR7-6-88
- Washoe County Special Use Permit SW04-024
- Permit to Operate an Air Pollution Emission Source No. L58A

2.0 PROPOSED ACTION AND ALTERNATIVES

This EA provides the analysis of the potential direct and indirect effects from the Proposed Action and No Action Alternative. Cumulative effects of the Proposed Action and No Action Alternative are addressed in Section 5.0. Three other Alternatives were eliminated from further consideration and are described below.

2.1 ALTERNATIVE A: PROPOSED ACTION

Mineral Materials Sale Contract Renewal

The current and future operations of both the Spanish Springs Quarry and the Broken Hill Extension involve the removal of high-quality aggregate construction material and aggregate used for the production of Portland Cement concrete and asphaltic concrete products distributed throughout the Reno/Sparks construction market. Figure 2-1 illustrates the current extent of the Spanish Springs Quarry. Approximately 90 percent of the current production is quarried from public lands.

Under the renewed Mineral Material Sales contract, quarrying select rock material in Section 15 is proposed to continue using open pit methods in conformance with the Washoe County Special Use Permit (SW04-024), renewed in November 2004 (hereafter referred to as 2004 Washoe County SUP). Figure 2-2 illustrates the extent of the proposed 10 year quarrying plan. It is anticipated that future production would continue at near current levels of approximately one million tons per year for 10 years. After 10 years, the contract area for this project would be open for renewal and application for additional material would be required. Future production will depend upon market demand but is expected to continue for another 20 to 30 years.

The proposed quarrying plan for the existing Spanish Springs Quarry extends to 2042. Figure 2-3 illustrates the extent of the proposed final quarrying plan. Twenty million tons of additional aggregate is expected to be quarried before production ceases within this Mineral Material Sales area on public land. Six million tons of this aggregate are included in the proposed renewed Mineral Materials Sale which extends for 10 years.

The final extent of the quarry would result in a 430 foot high cut slope, with approximately a quarter of the slope area (east facing slopes) exhibiting a grade of 3.0 horizontal to 1.0 vertical (3.0H:1.0V) or flatter. The existing topography will not allow anything gentler than 2.0H:1.0V slopes across the remaining slope area (north and south facing slopes) (Figure 2-3). Waste rock is not generated by the quarrying because all the quarried material satisfies specifications for high quality construction aggregate.

Surface disturbance on public lands would increase from 33 acres to 64 acres as a result of the proposed Mineral Materials Sale. A majority of the anticipated surface disturbance is projected to extend the quarrying area to the northwest face, while secondary expansion to the north

and northeast will occur to balance and secure quarrying slopes associated with the face of the open-pit.

Conveyor and Access Road Right-of-Way

Once quarrying on public lands has ceased, the Proposed Action involves the use of the ROW across the public land (SW1/4 of Section 15) to access the Broken Hill Extension (N1/2 of Section 21), which is owned by MMM. The proposed ROW would accommodate the conveyor belt system and access road connecting the Broken Hill Extension to the Spanish Springs Quarry processing facilities. The ROW corridor for this project would cover approximately 19 acres of BLM property; the physical structures of the conveyor and access road would require approximately five of these 19 acres.

Figure 2-4 illustrates the detailed location of the ROW corridor in relation to the existing Spanish Springs Quarry. Figures 2-5, 2-6, and 2-7 illustrate plan, profile, and cross sectional views of the configuration for the proposed ROW corridor, respectively. The conveyor and access road would be constructed on a 50-foot wide area within the 200-foot wide ROW corridor.

The total disturbed and reclaimed area over the life of the Broken Hill Extension is expected to be approximately 289 acres, including the access roadway to the existing quarry. Concurrent reclamation during the life of the quarry extension will reduce the amount of land to be reclaimed upon cessation of operations. Mine development will be designed to conform to the topography proposed at the cessation of quarrying.

The projected date of the quarry extension is 2017; the design, construction, and exact location of the proposed conveyor and access road are preliminary. By including this preliminary information in this EA, environmental impacts can be better understood, and the subsequent design and engineering phases for the conveyor and access road can be better tailored to minimize these impacts. Final design elements will be submitted by MMM in a POD subject to separate BLM review and authorization. If the preliminary information included in this EA is insufficient when the POD is submitted to BLM for review and approval, supplemental NEPA compliance may be required by BLM prior to issuing the ROW authorization.

Independent Utility

The Proposed Action involves two elements: 1) the renewal of a competitive Mineral Materials Sale Contract, and 2) the construction and operation of an aggregate conveyor belt and an associated access road. Construction of the conveyor belt and associated access road are reasonably foreseeable projects, however, granting a ROW authorization is not dependant on the renewal of the Mineral Materials Sale Contract. These two elements do not meet the “connected actions” test under 40 CFR 1508.25 (a)(i, ii, iii). As the conveyor and access road element are reasonably foreseeable, this EA has analyzed the effects from both elements in the Environmental Consequences and Cumulative Impacts sections. As described in Section 1.3, the BLM would decide whether to deny the proposed right-of-way, grant the right-of-way, or grant the right-of-way with modifications. Modifications may include modifying the proposed

use or changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)). The BLM would also decide whether or not to renew the Competitive Mineral Materials Sales Contract pursuant to 43 CFR 3602.47. As described in Section 1.3, although these are related and reasonably foreseeable projects, they have independent utility and therefore the BLM may decide to renew the Mineral Materials Sale Contract without authorization of the ROW at this time.

2.1.1 Construction of Conveyor and Access Road

The Proposed Action involves the construction of the conveyor belt and access road. Finalized design and construction details will be provided in the POD submitted for BLM approval prior to starting construction activities. If the preliminary information included in this EA is insufficient when the POD is submitted to BLM for review and approval, supplemental NEPA compliance may be required by BLM prior to issuing a ROW authorization. Following construction, MMM will file “as-built” drawings and other required documentation.

The location of the conveyor and access road is over and across portions of diagonally-adjacent Sections 15 and 22, Township 21 N, Range 20 E, MDB&M (Figure 2-4). The configuration of the proposed facilities is described as follows:

- Commencing at the northwest corner of Section 22, being the Point of Beginning.
- Continuing south along the section common with Section 21, South 0°39'55" West, 147.15 feet;
- Leaving said section line, North 80°46'52" East, 228.44 feet;
- Continuing North 29°38'17" East, 1,227.52 feet;
- Continuing South 89°5'41" East, 2,079.50 feet, to the east boundary of the southwest quarter of Section 15;
- Continuing along said quarter section line, North 1°39'53" East, 200.02 feet;
- Continuing North 89°5'41" West, 2,314.63 feet;
- Continuing South 29°38'17" West, 1,213.57 feet, to the west section boundary of Section 15;
- Continuing South 0°47'34" West, 49.01 feet, to the southwest corner of Section 15; and
- Continuing South 0°43'24" West, 56.22 feet, to the northwest corner of Section 22, the Point of Beginning, bounding approximately 19.146 acres.

The proposed conveyor is a trussed conveyor with standard Conveyor Equipment Manufacturer's Association troughing idlers and standard conveyor cover. The conveyor with cover is approximately 4 feet high and 4.5 feet wide. The conveyor would cross Stormy Canyon approximately 23 feet above the canyon bed.

The access road would be constructed as close as possible to the location of the conveyor to minimize impacts to the surrounding area. The road would provide access to both the conveyor and access to the adjoining Broken Hill Extension. The conveyor access area would be 20 feet wide and it is expected that the road would extend approximately 30 feet laterally

adjacent to the conveyor. Together the conveyor and access road would be configured in parallel along a 50 foot wide area within the 200-foot wide ROW corridor upon completion.

Construction of the road and location of the conveyor would require a bulldozer to build a road 30-feet wide, along the canyon wall and within the selected 50 foot construction location for the conveyor and road. Additional equipment requirements may include a compactor, backhoe or excavator, a motorgrader, and a water truck.

Equipment, materials, and construction support vehicles will remain within designated areas identified by this EA, and temporary staging areas would be established at the existing quarry site near the location of the Proposed Action. Trucks would deliver materials, as required to build the road and the conveyor (e.g., gravel, corrugated pipe) to minimize the presence of excess materials and equipment within the construction area.

The workforce may average four workers and one foreman per day for the access road. In addition, other specialized craftsmen (e.g., welders) and construction engineers would be needed for some of the more complicated or delicate aspects of the construction project.

The conveyor would be constructed in conformance with applicable project plans and manufacturer's specifications or guidance. All applicable state and federal laws, including health and safety, would be followed during the construction project, and MMM would secure the site during non-working hours to prevent unauthorized access. A daily inspection would be performed to record project details and ensure the integrity of the project (e.g., geological disturbance, health and safety).

The access road would follow the existing grade of Stormy Canyon without a bridge or culvert. The road would be cut below grade so that the top of the compacted aggregate road is stabilized at the existing flowline of the canyon. The road would crown at the centerline with 1.5 to 2 percent declining slope to each side. The road would be constructed of compacted aggregate at least 1-ft thick and would be comprised of crushed diorite from the quarry.

Maximum in slope and out slope values would be followed in the design of the conveyor and access road at the project site. Post-construction, all road margins would be re-vegetated with native vegetation. The area of the conveyor is not planned to be re-vegetated while in use, and based on the gradient of the hillside for the conveyor, restoration to original, natural landscape conditions may be difficult. A plan to return the site to a natural condition after quarrying operations are completed will be developed and submitted with the POD.

A Department of the Army Section 404 Permit (33 CFR 325) would be obtained by MMM prior to the ROW authorization from the BLM to start the construction of the access road and conveyor. This permit is required for discharge to or modification of waters of the United States tributary because the U.S. Army Corps of Engineers (USACE) has jurisdiction over the Stormy Canyon tributary. Depending on the outcome of the 404 permit application, the USACE may require additional mitigation measures to impacts associated with this element of the Proposed Action. Supplemental NEPA compliance may be required by the BLM to address this mitigation.

2.1.2 Continued Mining Operations

Mining at the Spanish Springs Quarry under the renewed Mineral Materials Sale Contract will continue using existing equipment and manpower. Operations equipment consists of bulldozers, loaders, and various crushing, stacking and screening equipment. Construction aggregate is exposed and extracted using conventional quarrying methods and pushed downslope using heavy equipment where loaders recover the loose aggregate and feed it into the processing plant.

Tractor-trailer trucks haul processed aggregate from the mine-site into the Reno commercial market. During periods of operation, the current average traffic generation for this project is 150 round-trips per day, consisting primarily of tractor-trailer type vehicles hauling aggregate from the pit to construction sites within 30 miles of the quarry site. Peak season truck traffic may exceed 300 round trips per day. The average traffic level varies with occasional large construction projects. However, traffic generated from the continued quarrying operations use existing paved access roads and infrastructure. The primary access road to the quarry, Sha-Neva Road, intercepts the nearest major arterial route at Pyramid Lake Highway. Haul trucks use Pyramid Lake Highway en route to the Reno/Sparks metropolitan area.

MMM estimates that about 25 full-time employees are needed to continue operation of the pit during normal excavation and aggregate processing activity. An additional six employees are needed to operate the existing asphalt plant, and all personnel are anticipated to live in the Reno/Sparks metropolitan area. As the production at the Broken Hill Extension is phased-in, beginning in 2017, MMM's goal is to maintain production capacity from the current quarry, quarry extension, and associated processing facilities at levels sufficient to meet local market demand for rock products. As such, the expected traffic levels and number of employees would remain the same, regardless of where the production is occurring.

2.1.3 Wastes, Hazardous/Solid

MMM does not propose long-term storage or transport of hazardous materials on the Proposed Action location. General quarrying supplies that are hazardous include diesel fuel, gasoline, lubricating grease, antifreeze, and solvents used to maintain and operate equipment and vehicles. The concrete plant that is currently operating at the processing facilities on the Spanish Springs Quarry uses concrete admixtures that are hazardous substances as defined by the List of Hazardous Substances and Reportable Quantities (40 CFR 302.4 and 117). On an annual basis, the Proposed Action is not expected to use, produce, store, transport, or dispose of any of the 'Listed' elements or compounds in excess of the defined reportable quantities. Petroleum asphalt (CAS Number 8052-42-41) is the primary ingredient necessary for the manufacture of asphaltic concrete admixtures produced at the mine.

Material Safety Data Sheets will be maintained in project files for all chemical materials used on the project site during the Proposed Action.

2.1.4 Access

Under the Proposed Action, access to the Spanish Springs Quarry would continue to be via Sha-Neva Road, a 1.2 mile paved access road, from Pyramid Lake Highway as identified on Figure 1-1. The perimeter of the quarry is unfenced and unsigned, and is generally accessible to the public. Public access to the private land portion of the quarry, including product stockpiles; crushing, stacking, and screening plant; asphalt plant; concrete plant, maintenance areas; and administrative facilities, to the east is not permitted.

Access to the proposed location of the access road and conveyor by project constituents would be through the privately owned portion of Spanish Springs Quarry. Transportation routes used during the construction of the conveyor belt would be planned prior to the start of the project, and although there would be an increase in traffic in the area, access would be on roads already used by the quarrying operations and not through residential areas. It is estimated that approximately seven trucks a day on the proposed access road would be required for monitoring and maintenance of the conveyor. On a normal daily operating basis, the access road would be used for approximately seven round trips for refueling and maintenance. Approximately 10 times per month, quarrying equipment (e.g., trucks, bulldozer, and a front-end loader) would be transported along the access road to the Broken Hill Extension.

Per the Washoe County SUP (2004), Eagle Canyon Drive will not be used as a route of ingress and egress to the quarry for vehicular traffic. Rock quarried at the Broken Hill Extension, after primary crushing, would be transported to the Spanish Springs Quarry using the conveyor. Both the access road and the conveyor should be accommodated within a 50 foot wide graded area. The road would provide access for quarrying equipment, service vehicles, and personnel. On a normal daily operating basis, the access road would be used for approximately seven round trips for refueling and maintenance. Approximately 10 times per month, quarrying equipment (e.g., trucks, bulldozer, and a front-end loader) would be transported along the access road to the Broken Hill Extension.

Current use of public lands along Stormy Canyon by the public is occasionally by foot and Off-Highway Vehicles. Per the 2004 Washoe County SUP, this access will not be impaired by the proposed access road or the conveyor. The road crossing of the drainage channel would be a low water crossing at existing grade. The conveyor system would pass overhead with ground supports sufficiently spaced to pass the occasional recreational vehicle expected to traverse the drainage. The conveyor design will involve safety precautions that protect public land users.

During construction of the proposed conveyor and access road, public access to the bottom portion of Stormy Canyon would be limited due to safety concerns. Access to the construction area would be limited to workers and authorized visitors and the area would be secured during non-work hours. Additional details describing maintenance of the conveyor and access road would be developed and specified in the POD.

2.1.5 Control of Stormwater

In order to prevent pollutants from being released into and carried by stormwater, MMM follows best management practices (BMPs) associated with the Stormwater Permit (General Permit NVR050000 Facility ID – 1365) for the existing operations and will continue to do so during operations under the Proposed Action. The stormwater BMPs include:

- The site area north of Stormy Canyon is graded to drain directly to the process water/stormwater drainage ditch toward the process water/stormwater holding ponds, which are located on private property east of the Mineral Material Sale area. Water from the holding ponds is re-used on-site.
- All quarry and ore processing equipment are reasonably maintained so that undue spills of fuel, oil, or other liquids do not occur.
- The use of dust control water is limited to prevent run-off of spent waters.
- Trash is collected and contained to prevent exposure to weather.

In addition, there is an existing stormwater diversion berm located along the north side of Stormy Canyon. This stormwater diversion berm is used to channel flows away from the site, thereby, minimizing the run-off potential of storm flows into Stormy Canyon.

To prevent pollutants from being released into the environment during construction of the proposed conveyor and access road, MMM would apply for and obtain a Construction Stormwater Permit. As a requirement of that permit, a Stormwater Pollution Prevention Plan would be developed according to NRS 445A.300 through 445A.730 to include and define BMPs to control stormwater at the site. This would be in addition to the existing Stormwater Permit listed above. BMPs would include the following:

- A stormwater diversion berm would be constructed on both sides of the conveyor belt (on both sides of the canyon) and at the bottom of the Stormy Canyon
- The use of water to control dust would be limited to prevent runoff.
- Trash would be managed and contained to prevent exposure to inclement weather.

2.1.6 Dust Control

The Spanish Springs Quarry currently operates under the Permit to Operate an Air Pollution Emission Source No. L58A that was issued to MMM for current quarrying operations. This permit would apply to the renewed Mineral Material Sales. The permit lists the aggregate plant including the jaw crusher, two cone crushers, an impact crusher and screens and the aggregate pit as the equipment included in the permit, and stipulates the following operating conditions:

- The operator must implement acceptable methods to prevent airborne particulate matter created as a result of the facility. Any and all of the following methods must be in use as necessary to control the fugitive emissions generated from equipment operation or wind: water trucks, sprinklers, wind fencing, revegetation, chemical sealants, cessation of operations, etc.

- Fogging water sprays must be applied to any potential emission point when the plant is in operation. An equivalent pollution control method(s) may be used upon approval from the Air Quality Management Division;
- All operations must comply with federal New Source Performance Standards (NSPSI for Non-Metallic Mineral Processing Plants). The opacity from any transfer point or crusher/screen must not exceed 10 percent;
- All haul truck loads must be treated (water sprays, tarping, etc.) so that no fugitive dust would be generated during transport;
- Any soil tracked onto adjoining paved roadways must be promptly removed by washing or broom;
- Mobile diesel equipment must not idle for more than 15 minutes; and
- The annual throughput/consumption figures must be submitted in writing to the Air Quality Management Division no later than the 20th of the month, two months prior to the expiration date of the permit.

Prior to construction of the conveyor belt and access road, an Authority to Construct/Permit to Operate the proposed equipment would be obtained by MMM from the Washoe County Air Quality Management Division. This would be in addition to the existing air permit (No. L58A). A dust control plan would be implemented during construction to accommodate the State of Nevada's emission standards for release of fugitive dust. During construction activities, a water truck would be used on the access roads to minimize the amount of dust generated during the operation.

During operation of the proposed equipment, all conditions outlined in the Permit to Operate would be followed in accordance with District and State regulations. Details of this permit would be included in the POD.

2.1.7 Operation and Maintenance

Current extraction from the Spanish Springs Quarry is from a single continuous 300 foot high cut face (Figure 2-1). The operation is transitioning to employ accepted industry-wide quarrying techniques in mineral extraction, including drilling, blasting, dozing, loading, and hauling. Select material is furnished for use in the asphaltic concrete and Portland cement concrete batch plants operated at the quarry. Other finished products are front-end loaded onto trucks which are weighed on scales as they leave the property.

Water is used for dust control including spray bars on the conveyor belts of the processing plant, spray bars for truck loads exiting the property, and a full-time water truck sprinkling active roadways to mitigate fugitive dust. Heavily trafficked unpaved road surfaces have been treated with stabilizing emulsion to reduce dust emissions. The main haul road, Sha-Neva Road, has been paved from the office and scales to the Pyramid Lake Highway.

All water currently used for processing and dust mitigation is from a well on adjacent private property. A 500,000-gallon non-potable water storage tank is located on site and is filled on a

regular basis by pumping from the well. Process water is reclaimed using a clarifier to separate and settle fines from decant water.

The following measures are followed under existing operations and will continue to be followed upon renewal of the Mineral Materials Sale:

- Topsoil or other growth medium encountered in areas disturbed by the proposed quarry extension would be stockpiled as shown on Figure 2-1 for later use in reclamation.
- No permanent surface waters would be impacted by the proposed operation and no groundwater is expected to be encountered during the life of the proposed quarry extension.
- Reclamation of areas to be disturbed by the proposed quarry extension would be as per the reclamation plan described below, with the recommended seed mix previously supplied by the BLM.
- Reclamation would be concurrent with quarrying where practical. Once a portion of the quarry is depleted or no longer in need of utilization, that portion would be re-contoured and reseeded.
- Erosion would be controlled by preventing storm water runoff from exiting the quarry extension.
- All site lighting would be downward facing or shielded to eliminate glare on surrounding properties and shall not exceed one foot-candle at the property line.
- Truck traffic should not increase as a result of the contract renewal other than possible increases due to normal market demand. The current access road from the plant to Pyramid Lake Highway would remain unchanged.
- The existing operation at the Spanish Springs Quarry limits access to quarrying and processing areas by the general public for health and safety reasons, while maintaining access to Stormy Canyon. Current access to these public lands along Stormy Canyon is by foot and OHVs.
- The future access road and conveyor system between the existing Spanish Springs Quarry and the Spanish Springs Extension would traverse BLM administered property and parallel a portion of Stormy Canyon for approximately 1,200 feet.
- Fugitive dust would be controlled by a water truck spraying the pit area and roadways and by a wet suppression system (fogging water sprays) for the crushers, screens, conveyor drop points, or other processing equipment as necessary when the plant is in operation.
- The Air Quality Management Division of the Washoe County Health Department has issued a control based operations permit for the Spanish Springs Quarry. The County has found the quarry to be in substantial compliance with all of the terms of its operating permit during each year of record.
- Should any prehistoric or historic remains/artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the Department of Museums, Library and Arts, and the Reno-Sparks Indian Colony shall be notified. The period of temporary delay shall be defined in the Cultural Resources Management Plan (per condition No. 5 of the SUP).

In approximately 2017, MMM anticipates to transfer aggregate quarrying operations from the current Spanish Springs Quarry to the Broken Hill Extension while continuing to use the facilities and infrastructure at the current site.

Once the conveyor is installed, its operating life would depend upon market demand and the total accessible mass of target aggregate existing on the Broken Hill Extension. The material is the same as that presently quarried under the current BLM Mineral Material Sale, and will involve similar processing into equivalent construction aggregates (e.g., concrete, asphalt, etc.).

Material would be initially loaded onto the conveyor by a portable primary crushing circuit, and depending upon market demand, a stationary crushing circuit may be integrated as the new pit develops. The conveyor is expected to transport material directly to secondary processing equipment such as screens and subsequent crushers; however, initial staging through a surge pile may be needed. Design work detailing specifications for the Broken Hill conveyor and access road is anticipated to occur after permit requirements associated with the right-of-way grant are obtained and understood.

Rock quarried at the Broken Hill Extension, after primary crushing, would be transported to the Spanish Springs Quarry using the conveyor. Both the access road and the conveyor should be accommodated within a 50 foot wide graded area. The road would provide access for quarrying equipment, service vehicles, and personnel. On a normal daily operating basis, the access road would be used for approximately seven round trips for refueling and maintenance. Approximately 10 times per month, quarrying equipment (e.g., trucks, bulldozer, and a front-end loader) would be transported along the access road to the Broken Hill Extension.

2.1.8 Ancillary Facilities

Existing facilities on BLM lands include: crushers, stackers, a screening plant and an aggregate wash plant; and an asphalt plant storage building and stockpile area. In addition, on adjacent private property, there is an office, a process water clarifier, scale house, shop buildings, a fuel storage area and a 500,000-gallon non-potable water storage tank. There are also areas available for parking and storage of equipment, vehicles, inventory and supplies; stockpiles for aggregate, and other uses necessary or associated with the operation of the aggregate quarry.

2.1.9 Reclamation

Reclamation is an integral and necessary part of the quarrying plan. Reclamation activities that are planned as part of proposed activities at the site include:

- Establishing revegetation test plots;
- Stockpiling topsoil and fine grained soils, if available, to use as growth medium in quarried areas at the cessation of operations;
- Removal of equipment and temporary structures used on the site;
- Removal of berms or flood diversion structures;

- Recontouring disturbed areas to blend in with the existing natural topography;
- Revegetating disturbed areas; and,
- Monitoring revegetation efforts until bonding can be released.

Figure 2-3 shows the proposed slopes at the cessation of operations. The slopes would average 3.0H:1.0V and would be amendable to regrading and reseeding. Steeper slopes carved into bedrock would not be reseeded. Slopes would be recontoured to better enhance revegetation, to mitigate erosion, and to render them more visually appealing. The 3.0H:1.0V slopes would blend in well with the natural topography. Revegetation efforts would be concurrent with quarrying.

Reclaimed slopes and the floor of the quarry would be recontoured to have a natural appearance per condition No. 21 of the 2004 Washoe County SUP. There would be no flat slopes, as part of the 3.0H:1.0V reclaimed surface, left during concurrent reclamation activities or after cessation of quarrying. The finished reclaimed slopes would comply with Washoe County requirements that such slopes be natural looking, undulating, curvilinear surfaces.

Table 2-1 presents a summary of the existing surface disturbance and the areas to be disturbed by the renewed Material Mineral Sales element of the Proposed Action. Figure 2-1 illustrates areas of existing and proposed disturbance associated with the Proposed Action.

TABLE 2-1. PROJECT AREA DISTURBANCE (IN ACRES)

Spanish Springs Valley Pit	
Steep Slopes in Areas of Existing Disturbance	27.09
Gentle Slopes in Areas of Existing Disturbance	6.20
Subtotal	33.29
Steep Slopes in Proposed Areas of Disturbance	9.02
Gentle Slopes in Proposed Areas of Disturbance	21.73
Subtotal	30.75
TOTAL	64.04

2.1.9.1 Topsoil Stockpiling

Most of the project site has a relatively thin covering of topsoil with a high proportion of surface cobbles and stones. In areas where recoverable topsoil is encountered, it would be removed, salvaged, and stockpiled for use during reclamation. Topsoil stockpiled for later use would be spread as a growth medium and seeded to reduce erosion from wind and runoff. The proposed topsoil storage stockpile areas are depicted on Figure 2-1. At this time, there are no plans to import additional topsoil or growth medium material to the site.

2.1.9.2 Removal of Equipment

All vehicles, equipment, shop buildings and storage units, sanitary facilities, asphalt, and/or concrete batch plants including temporary and permanent foundations, screens, crushers,

conveyors, conveyor support towers and foundations, and unused supplies would be removed from the site at the cessation of quarrying activities.

2.1.9.3 Revegetation

The objective of revegetation is to stabilize the ground surface against erosion and to return the site to an appropriate post-mining land use. Revegetation would be accomplished using a seed mixture and application rate that has been approved by the BLM. The seed mixture and application rate would be developed based on the results of the trial seeding program.

Test plots would be developed in an area of the quarry which is representative of the land to be reclaimed and would have a limited impact on existing or proposed quarry operations. The test plots would be established early enough in the project to allow reclamation activities to begin concurrent with the Proposed Action. The area for test plots is located on private lands, owned by MMM, immediately adjoining the eastern boundary of the Mineral Material Sale area and the existing and proposed areas of disturbance. A gently sloping bench forms the top of this area with a relatively shallow east facing slope below. This slope would be graded to a 2.0H:1.0V slope with a relatively flat bench at the bottom. Within this area, two types of test plots would be established: Control Plots and Seed Mixture Plots. Both the Control and Seed Mixture test plots would be established upon both flat and graded surfaces. The test plots would be constructed by the successful bidder during the first year of the contract. Neither the slopes nor the flat bench would be treated. This control plot would allow for the evaluation of un-aided revegetation and the potential for erosion of unprotected soils.

Because the test plot area has been previously quarried, it may need to be either enhanced or replaced with soil amendments such as mulches or fertilizers for seedbed preparation. The seedbed would be prepared prior to construction of the test plots. The test plot slope and flat bench would then be seeded using seed mixtures of suggested plant species approved by the BLM. A list of plant species considered for initial seeding trials is presented in Table 2-2. This list will be modified following analysis of native plant species present at the locations that will require reclamation. Seed amounts for the seeding trials would be determined after an appropriate species mix has been approved by the BLM.

TABLE 2-2. PLANT SPECIES SUGGESTED FOR INITIAL SEEDING TRIALS.

Grasses	Thickspike Wheatgrass, Critana Variety <i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>
	Bottlebrush Squirreltail <i>Elymus elymoides</i>
	Indian Ricegrass, Nezpar Variety <i>Orzopsis hymenoides</i>
Forbes	Globemallow <i>Sphaeralcea ambigua</i>
	Cedar Palmer Penstemon <i>Penstemon palmeri</i>
Shrubs	Fourwing Saltbush <i>Atriplex canescens</i>
	Kochia, Immigrant Variety <i>Kochia prostrata</i>

	Wyoming Big Sagebrush <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>
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After the test plots are established, they would be monitored on an annual basis. A report would be submitted to the BLM which includes a chronologic record of the types and amounts of applied soil amendments, an inventory of the species present, calculation of plant densities, and photo documentation. The final evaluation of the test plots would take place three years after the implementation of the trial seeding program and would include a revegetation plan appropriate for the contract area. The final evaluation and revegetation plan would be performed by a qualified reclamation specialist, botanist, landscape architect or related professional and would be submitted to the BLM for approval.

The following revegetation methods are proposed:

Seed Bed Preparation:

- Topsoil or other fine grained soils that would be stockpiled on site would be used as a growth medium in gently sloping areas (i.e., slopes of 3h:1v or less).
- At the cessation of quarrying and recontouring operations, all areas of cut slopes to be seeded would be scarified (roughened) along the contour. Fill slopes would only require scarification if substantial compaction of the area has occurred such as on roads and in areas of high equipment traffic.
- No finished slopes would be greater than 2.0H:1.0V. Slopes of 2.0H:1.0V composed of bedrock would be graded to resemble adjacent topography, but would not be seeded.

Seeding Method:

- Gently sloping areas would be seeded with a rangeland drill or other drilling method
- Steeply sloping areas (i.e. slopes of greater than 3.0H:1.0V) would be broadcast seeded, except where bedrock is exposed.
- Seeded areas in gently sloping terrain would be raked or dragged to cover the seed.
- Seeding would take place in the late fall or early winter.
- Revegetation would not be undertaken on steep slopes in bedrock where no soil is available.

Slopes that are visible from the valley or roadway would also have juniper trees planted randomly to match the amount of growth on surrounding undisturbed terrain.

Reclamation activities would be conducted at the cessation of quarrying operations. It is anticipated that most of the presently disturbed quarried areas and ore processing areas would continue to be used throughout the life of the mine. Therefore, these areas would not be reclaimed until the cessation of quarrying activities. Concurrent reclamation would be undertaken at any areas of the quarry that are considered finished.

Revegetation monitoring would be conducted over a three year period following initial planting. Monitoring would be conducted by the BLM or a qualified individual approved by the

BLM. At the end of three years, revegetation goals would be evaluated and additional revegetation guidelines would be established, if necessary. Once vegetation has been established that meets the revegetation criteria, the reclamation bond would be released.

2.2 ALTERNATIVE B: NO ACTION

Under the No Action Alternative, the conveyor and adjacent access road between the Broken Hill Extension and the existing quarry and processing facility would not be built, and the Mineral Material Sale contract would not be renewed. The rural land would continue to be managed under BLM. Development of the Broken Hill Extension could instead occur as an independent quarry location with new access roads and processing facilities positioned on private property. Under the No Action Alternative, the BLM would not grant MMM a ROW authorization for the conveyor and access road, and the BLM would not renew the competitive Mineral Materials Sales Contract.

Implementing the No Action Alternative would result in the loss of needed construction materials to the Reno/Sparks market, and the potential development of the Broken Hill Extension in a manner that involves greater environmental impact. Reclamation activities in accordance with the terms of the existing Mineral Materials Sale Contract would commence immediately.

2.3 ALTERNATIVES ELIMINATED FROM CONSIDERATION

There were three alternatives that were considered but eliminated from the EA process based on discussions with the Reno-Sparks Indian Colony, reference to county regulations, and stipulations included in the 2004 Washoe County SUP (Appendix A). The Indian Colony owns the land adjacent to the proposed project site to the west and northwest. The three alternatives eliminated from further consideration are discussed below.

2.3.1 Alternative Conveyor Location

An alternative conveyor location was identified in Section 16 on property owned by the Indian Colony. This alternative would still require a conveyor on BLM property across Stormy Canyon and would impact both properties. Additionally, the Indian Colony requested that MMM leave certain portions of the Broken Hill property undisturbed, leave a wider buffer along property lines, and include berms in certain locations to mitigate visual impacts. These requests were modified terms extracted from the 2004 Washoe County SUP. This alternative was not proposed for further consideration based on stakeholder involvement and limitations associated with the 2004 Washoe County SUP.

2.3.2 Truck Hauling Via Access Roads

Hauling material by truck from the Broken Hill Extension to the Spanish Springs Quarry using access roads to the south and east was identified as an alternative option. However, communication with stakeholders revealed that the property to the southeast was in the process of being purchased and developed by Barker-Coleman Company for residential real

estate development. Consequently, this alternative was not proposed for further consideration because transportation routes for haul trucks from the property could create unfavorable impacts on the residential area.

2.3.3 Truck Hauling Via Eagle Canyon Road

Hauling material by truck from the Broken Hill Extension to the Spanish Springs Quarry using Eagle Canyon Road southwest of the property was also identified as an option. However, the 2004 Washoe County SUP obtained from the county to quarry aggregate from the property prohibits haul-truck traffic on Eagle Canyon Road, so this alternative was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT

This Section identifies and describes the current condition and trend of elements or resources in the human environment that may be affected by the Proposed Action or Alternatives.

3.1 SCOPING AND ISSUE IDENTIFICATION

Internal scoping meetings were conducted with the BLM and Tetra Tech on November 4, 2008 and February 8, 2010. The key issue identified for this EA is determining the presence of Webber's Ivesia or presence of potential habitat for this species at the project site. No other key issues were identified. Additionally, consultation with the Reno-Sparks Indian Colony occurred in 2006 while developing alternatives and new consultation was initiated in March 2011. The results of these consultations are discussed in Section 2.3 and 2.3.1.

3.2 ALTERNATIVE A: PROPOSED ACTION

3.2.1 General Setting

The Spanish Springs Quarry is located about 10 miles north of Sparks off of Pyramid Lake Highway, in Washoe County, NV. The area lies between 4,700 and 5,100 feet above sea level. The quarry is located at the southern end of the Hungry Mountains, and the overall site slopes southeast toward Stormy Canyon. The southeast face of the hill is currently being quarried for aggregate. The climate is semi-arid with an average rainfall of four to six inches per year. The project area that has not been disturbed for quarrying operations is relatively intact sagebrush habitat scattered with occasional junipers. Figure 1-1 provides the topographic overview of the site and Figure 1-2 provides a site-specific topographical view of the location of the Proposed Action.

3.2.2 Supplemental Authorities

Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. Supplemental Authorities that may be affected by the Proposed Action or Alternatives are further described in this EA.

TABLE 3-1. SUPPLEMENTAL AUTHORITIES*

Supplemental Authority	Not Present**	Present/Not Affected**	Present/May Be Affected***	Rational and/or Section Found
Air Quality			X	3.3.1
Areas of Critical Environmental Concern (ACEC)	X			No ACECs are present on or near the project site.
Cultural Resources			X	3.3.3
Environmental Justice	X			Not present.
Farm Lands (prime or unique)	X			No Farm Lands are present on or near the project site.
Floodplains	X			The project site is not located within or near a floodplain.
Invasive, Nonnative Species			X	3.3.2.1
Migratory Birds			X	3.3.2.5
Native American Religious Concerns	X			Not present (Ref Cultural Resources 3.3.3)
Threatened or Endangered Species	X			Not present. A review of the USFWS and Nevada Natural Heritage Program websites and species list were performed. See Appendix B.
Wastes, Hazardous or Solid	X			The Proposed Action is not expected to use, produce, store, transport, or dispose of any hazardous wastes in excess of the defined reportable quantities
Water Quality (Surface/Ground)			X	3.3.11
Wetlands/Riparian Zones	X			There are no wetlands or riparian areas on or near the project site.
Wild and Scenic Rivers	X			There are no designated wild or scenic rivers on or near the project site.
Wilderness/WSA	X			There is no designated wilderness or wilderness study areas on or near the project site.

*See H-1790-1 (January 2008a) Appendix 1 Supplemental Authorities to be Considered.

**Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

***Supplemental Authorities determined to be Present/May Be Affected must be carried forward in the document.

3.2.3 Resources Or Uses Other Than Supplemental Authorities

The following resources or uses, which are not Supplemental Authorities as defined by BLM's NEPA Handbook H-1790-1, are also present in the area of the Proposed Action. BLM specialists have evaluated the potential impact of the Proposed Action on these resources; their findings are documented in Table 3-2. Resources or uses that may be affected by the Proposed Action or Alternatives are further described in this EA.

TABLE 3-2. RESOURCES OR USES OTHER THAN SUPPLEMENTAL AUTHORITIES

Resource or Uses	Present/Not Affected *	Present/May Be Affected**	Rational and/or Section Found
Vegetation		X	3.3.2.1
General Wildlife and Fisheries		X	3.3.2.2
BLM Sensitive Species (Animals and Plants)		X	3.3.2.4
Migratory Birds		X	3.3.2.5
Geology and Soils		X	3.3.4
Land Use and Access		X	3.3.5
Noise		X	3.3.6
Recreation		X	3.3.7
Socioeconomics		X	3.3.8
Traffic		X	3.3.9
Visual Resources		X	3.3.10

*Resources or uses determined to be Present/Not Affected need not be carried forward or discussed further in the document.

**Resources or uses determined to be Present/May Be Affected must be carried forward in the document.

3.3 RESOURCES OR USES PRESENT AND BROUGHT FORWARD FOR ANALYSIS

The resources referenced on Tables 3-1 and 3-2 are present in the area of the Proposed Action, and are carried forward for analysis.

3.3.1 Air Quality

The Clean Air Act (CAA) of 1970, 42 United States Code (USC) 7401 et seq. amended in 1977 and 1990 and Title 40 CFR Parts 50-99, are the basic federal statutes and regulations governing air pollution. The provisions that are potentially relevant to this project are the National Ambient Air Quality Standards (NAAQS) promulgated by the U.S. Environmental Protection Agency (EPA) and incorporated into corresponding county rules by the Washoe County District Health Department, Air Quality Management Division (AQMD).

The EPA has established NAAQS for six principal pollutants, which are called “criteria” pollutants. They are carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), inhalable particulate matter with particle diameters of 10 microns or less (PM₁₀), fine particulate matter with diameters of 2.5 microns or less (PM_{2.5}), and sulfur dioxide (SO₂). The NAAQS are codified in 40 CFR Part 50 and are summarized on Table 3-3. The units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m³), or micrograms per cubic meter of air (µg/m³).

The CAA also requires the EPA to assign a designation of each area of the United States regarding compliance with the NAAQS. The EPA categorizes the level of compliance or noncompliance as follows:

- Attainment – area currently meets the NAAQS

- Maintenance – area currently meets the NAAQS, but has previously been out of compliance
- Nonattainment – area currently does not meet the NAAQS.

As of February 7, 2001 Washoe County is classified as a “serious” non-attainment area for the 24-hour PM₁₀ standard with the last NAAQS exceedance recorded on January 14, 2005 (AQMD 2007). However, this non-attainment for PM₁₀ results from particulate in Truckee Meadows Basin; the Spanish Springs Quarry is not in this basin.

Washoe County was designated a “marginal” ozone non-attainment area until EPA rescinded the 1-hour NAAQS in 2005. Washoe County was recently redesignated as attainment for the 8-hour ozone standard. Additionally, in September 2005, Washoe County AQMD submitted a request to EPA for the redesignation to an attainment area for the 8-hour carbon monoxide NAAQS. However, the carbon monoxide request only applies to the Truckee Meadows Basin and does not apply to the Spanish Springs Quarry location. Washoe County, including the Truckee Meadows Basin is in attainment for 1-hour ozone and was recently redesignated as in attainment for the 8-hour CO NAAQS. Washoe County is in attainment for all other NAAQS averaging periods.

The principal sources of air contaminants from the Proposed Action include vehicular emissions, equipment emissions, dust from quarrying, and dust from construction of the conveyor belt and access road. Dust from quarrying, however, is not anticipated to be substantially elevated beyond the current dust emissions, because the daily volume of quarried material is anticipated to remain similar to the current quarry output. The sparse vegetation in the area causes natural fugitive dust emissions during high winds. Other air emission contaminants not sourced by the Proposed Action that could nevertheless impact the project location include home heating fuel combustion and dust generated from housing development construction along Pyramid Lake Highway. Air emission permits for the Spanish Springs area are maintained by the Washoe County District Health Department, Air Quality Management Division. Dust control permits would be obtained as outlined under the Proposed Action (Section 2.1.6) (NRS 445B).

The Washoe County AQMD operated seven monitoring sites in 2007; however, Washoe County AQMD does not maintain any stationary or mobile air quality monitoring stations in the Spanish Springs area. The closest station is located in Sparks, EPA ID No. 32-031-1005 (approximately 6.6 miles south) of the site. The Sparks station monitors for PM₁₀, ozone, and carbon monoxide. The Sun Valley station, EPA ID No. 32-031-2006 (approximately 10 miles south) of the site monitored for PM₁₀ until the site was shut down in March 2005 (AQMD 2008).

Dust control measures for the Proposed Action are discussed in Section 2.1.6.

TABLE 3-3. NATIONAL AMBIENT AIR QUALITY STANDARDS.

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour (1)	None	
	35 ppm (40 mg/m ³)	1-hour (1)		
Lead	0.15 µg/m ³ (2)	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m ³	Quarterly Average		
Nitrogen Dioxide	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Same as Primary	
	0.100 ppm	1-hour (3)	0.5 ppm (100 µg/m ³)	Annual (Arithmetic Mean)
Particulate Matter (PM ₁₀)	150 µg/m ³	24-hour (3)	Same as Primary	
Particulate Matter (PM _{2.5})	15.0 µg/m ³	Annual (4) (Arithmetic Mean)	Same as Primary	
	35 µg/m ³	24-hour (5)		
Ozone	0.075 ppm (2008 std)	8-hour (6)	Same as Primary	
	0.08 ppm (1997 std)	8-hour (7)		
	0.12 ppm	1-hour (8) (Applies only in limited areas)		
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 µg/m ³)	3-hour (1)
	0.14 ppm	24-hour (1)		

Source: United States Environmental Protection Agency (EPA), 2009

ug/m³ = micrograms per cubic meter

ppm = parts per million

1) Not to be exceeded more than once per year.

(2) Final rule signed October 15, 2008.

(3) Not to be exceeded more than once per year on average over 3 years.

(4) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

(5) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).

(6) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

(7) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(8) (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1.

(b) As of June 15, 2005 EPA revoked the [1-hour ozone standard](#) in all areas except the 8-hour ozone nonattainment [Early Action Compact \(EAC\) Areas](#).

3.3.2 Biological Resources

3.3.2.1 Vegetation

The project area is dominated by sagebrush habitat, as defined in Nevada Wildlife Action Plan (Wildlife Action Plan Team 2006). This habitat type typically consists of a shrub overstory with an understory of perennial grasses and forbs. The most common shrubs are Wyoming big sagebrush (*Artemisia tridentata* ssp. *Wyomingensis*) and Basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*). Basin big sagebrush may be dominant or co-dominant with Wyoming big sagebrush on sites having deep soils or accumulations of sand on the surface. Utah juniper (*Juniperus osteosperma*) is found scattered at higher elevations on the hillsides. Green rabbitbrush (*Chrysothamnus viscidiflorus*) is the next most abundant shrub in many of these communities. Other common shrubs include gray rabbitbrush (*Chrysothamnus nauseosus*), winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), prickly phlox (*Phlox* spp.), broom snakeweed (*Gutierrezia sarothrae*), and horse-brush (*Tetradymia* spp.). Threetip sagebrush (*Artemisia tripartita*) and/or black sagebrush (*Artemisia nova*) often dominate communities on the periphery of the on slopes of the buttes, alluvial fans, and the foothills of adjacent mountains.

The most common native grasses include thick-spiked wheatgrass (*Agropyron* spp), bottlebrush squirreltail (*Elymus elymoides*), Indian ricegrass (*Orhizopsis hymenoides*), needle-and-thread grass (*Stipa* spp.), and Nevada bluegrass (*Poa nevadense*). Common native forbs include tapertip hawkbeard (*Crepis acuminata*), Hood's phlox (*Phlox hoodyi*), Hoary false yarrow (*Chaenactis douglasii*), paintbrushes (*Castilleja* spp), globe-mallow (*Spharalcea ambigua*), buckwheats (*Eriogonum* spp.), evening primrose (*Oenothera* spp.), lupines (*Lupinus* spp.), bastard toadflax (*Comandra umbellata*), milkvetches (*Astragalus* spp.), and balsam root (*Balsamorhiza* spp.).

There is a small wash that crosses through the project site. This feature can serve as a valuable resource as an area of moister soils and vegetation following spring snow melt, and as a corridor for the movement of terrestrial wildlife (Wildlife Action Plan Team 2006). There are no obligate or facultative wetland species present in the wash.

3.3.2.2 Noxious Weeds/Invasive Non-Native Plant Species

Because the site is located near urban development, is disturbed through quarrying activities and construction, and is used for recreation, the potential for invasive plant species is high. Based on previous studies, invasive and non-native plant species that may be found in this area include (Nevada Natural Heritage Program 2005b):

- Cheatgrass (*Bromus tectorum*)
- Quackgrass (*Agropyron repens*)
- Spotted knapweed (*Centaurea maculosa*)
- Russian knapweed (*Acroptilon repens*)
- Diffuse knapweed (*Centaurea diffusa*)
- Scotch thistle (*Onopordum acanthium*)
- Leafy spurge (*Euphoria esula*)

- Musk thistle (*Carduus nutans*)
- Canada thistle (*Cirsium arvense*)
- Yellow starthistle (*Centaurea solstitialis*)
- Puncture vine (*Tribulus terrestris*)
- Field bindweed (*Convolvulus arvensis*)

From the above list, the following are present on the Nevada Noxious Weed List (NVDA, 2010), by category:

- Category A: Yellow starthistle
- Category B: Russian knapweed, Diffuse knapweed, Scotch thistle, Leafy spurge, Musk thistle
- Category C: Canada thistle, Puncture vine

3.3.2.3 General Wildlife and Fisheries

Mammals associated with sagebrush habitat that may be found at the subject site include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), sagebrush vole (*Lemmyscus curtatus*), and Great Basin pocket mouse (*Perognathus parvus*). Since the site is adjacent to an area that is heavily disturbed by human activities (Spanish Springs Quarry, local residential development, and recreational use of Stormy Canyon), mammals typically found in urban areas have the potential to inhabit the subject property. Reptiles potentially occurring on the subject site include the western fence lizard (*Sceloporus occidentalis*), sagebrush lizard (*Sceloporus graciosus*), desert horned lizard (*Phrynosoma platyrhinos*), and Great Basin rattlesnake (*Crotalus lutosus*). Birds associated with sagebrush habitat include the sage thrasher (*Oreoscoptes montanus*), Brewer's sparrow (*Spizella breweri*), and sage sparrow (*Amphispiza belli*). (Wildlife Action Plan Team 2006).

No perennial streams and no fish habitat occur in the proposed project area.

Game Species

The area does not contain potential habitat for the majority of big game species found in Washoe County including California bighorn sheep, pronghorn antelope, and black bear. However, mule deer habitat is located throughout the Spanish Springs Valley. The site is not recognized as a habitat for mountain quail. California quail and chukar partridge habitat is located throughout the Spanish Springs Valley. Quail habitat is typically restricted to areas within 300 yards of water. Therefore, the potential of quail habitat within the project area is believed to be low as Stormy Canyon is an ephemeral wash (BLM 1997 and 2005).

3.3.2.4 BLM Sensitive Species

BLM Manual 6840 establishes policy for the management of BLM sensitive species and their habitat (BLM 2008b). All federally designated candidate species, proposed species, and delisted species in the five years following their delisting shall be conserved as Bureau sensitive species. Species designated as Bureau sensitive must be native species found on BLM-administered lands

for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or

The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk (BLM 2008b).

It is in the interest of the BLM to undertake conservation actions for such species before listing is warranted (BLM 2008b). A list of sensitive animal and plant species associated with BLM lands in Nevada was signed in 2003 (BLM 2003). The U.S. Fish and Wildlife Service's electronic Nevada's Protected Species list provides the proposed and candidate species for Nevada (U.S. Fish and Wildlife Service 2010). Twenty two species found on the BLM sensitive species list have potential to be found at this site within sagebrush habitat (BLM 2003, Neel 1999).

Table 3-4 presents information regarding BLM sensitive species potentially found in the project area.

TABLE 3-4. BLM SENSITIVE SPECIES THAT MAY OCCUR IN THE PROJECT AREA.

golden eagle	<i>Aquila chrysaetos</i>	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions
ferruginous hawk	<i>Buteo regalis</i>	Grasslands and semidesert shrublands; nest in isolated trees, on rock outcrops, or ground
prairie falcon	<i>Falco mexicanus</i>	Primarily open situations, especially in mountainous areas, steppe, plains or prairies.
burrowing owl	<i>Athene cunicularia</i>	Open dry shrub/steppe grasslands, agricultural and rangelands, and desert habitats associated with burrowing animals
short-eared owl	<i>Asio flammeus</i>	Marshland and open grasslands, tundra, open fields, forest clearings, sagelands, deserts, pastures, prairies, lower mountain slopes, canyons, arroyos, dunes, meadows, and coastal salt marshes. The primary requirement of any habitat is an abundance of prey.
long-eared owl	<i>Asio otus</i>	Dense vegetation adjacent to open grassland or shrubland, and open forests.
juniper titmouse	<i>Baeolophus griseus</i>	Warm, dry open woodland, especially juniper woodlands.
loggerhead shrike	<i>Lanius ludovicianus</i>	Open county with scattered trees and shrubs, savanna, desert scrub, and occasionally open woodland.
vesper sparrow	<i>Pooecetes gramineus</i>	Plains, prairie, dry shrub lands, savanna, weedy pastures, fields, sagebrush, arid scrub and woodland clearings
western pipistrelle bat	<i>Pipistrellus hesperus</i>	Deserts and lowlands, desert mountain ranges, desert scrub flats, and rocky canyons
pallid bat	<i>Antrozous pallidus</i>	Arid deserts and grasslands, often near rocky outcrops and water
spotted bat	<i>Euderma maculatum</i>	Found in various habitats from desert to montane coniferous stands, including open ponderosa pine, pinyon-juniper woodland, canyon bottoms, open pastures, and hayfields
Yuma myotis	<i>Myotis yumanensis</i>	More closely associated with water than most North American bats. Found in a variety of upland and lowland habitats, including riparian, desert scrub, moist woodlands and forests, but usually found near open water.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Maternity and hibernation colonies typically are in caves and mine tunnels
big brown bat	<i>Eptesicus fuscus</i>	Various wooded and semi-open habitats, including cities
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>	Roosts primarily in caves
fringed myotis	<i>Myotis thysanodes</i>	Primarily at middle elevations for 1,200-2,150 meters in desert, grassland, and wooded habitats
California myotis	<i>Myotis californicus</i>	Western lowlands; sea coast to desert, oak-juniper, canyons, riparian woodlands, desert scrub, and grasslands
small-footed myotis	<i>Myotis ciliolabrum</i>	Generally inhabits desert, badland, and semiarid habitats
long-legged myotis	<i>Myotis volans</i>	Primarily in montane coniferous forests; also riparian and desert habitats
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Exposed sage brush-covered slopes, sage brush uplands
pygmy rabbit	<i>Brachylagus idahoensis</i>	Intact big basin sage brush with minimal understory

Webber's Ivesia

In addition, Webber's ivesia (*Ivesia webberi*), a candidate species, was found during our search of Federally threatened and endangered species, and is the only federal candidate species that could

be found on the project site. Comparisons of the Spanish Springs Quarry site with known populations of Webber's Ivesia (*Ivesia webberi*) were performed in spring and summer 2009. These comparisons showed the proposed quarry has no existing Webber's Ivesia individuals or populations. Additionally, the quarry site was found not to have habitat appropriate for Webber's Ivesia to occur. Appendix C provides additional detail on surveys performed.

3.3.2.5 Migratory Birds

On January 11, 2001, President Clinton signed Executive Order 13186 placing emphasis on the conservation and management of migratory birds. Migratory birds are protected under the Migratory Bird Treaty Act of 1918 and the EO addresses the responsibilities of federal agencies to protect migratory birds by taking actions to implement the MBTA. BLM management for migratory bird species on BLM-administered lands is based on Instruction Memorandum No. 2008-050 (BLM 2007). Based on this IM, migratory bird species of conservation concern include 'Species of Conservation Concern' and 'Game Birds Below Desired Conditions' (GBBDC) (BLM 2007).

Sagebrush habitat provides nesting and foraging habitats and for migratory birds. Nesting season in the project area is May through July. Partners in Flight has written a bird conservation plan to address migratory bird species, habitat descriptions, and objectives for each species. Referencing this document, sensitive migratory species of priority potentially found in the project area in sagebrush habitat include sage grouse (*Centrocercus urophasianus*) (sagebrush obligate), ferruginous hawk (*Buteo regalis*), loggerhead shrike (*Lanius ludovicianus*), prairie falcon (*Falco mexicanus*), and vesper sparrow (*Pooecetes gramineus*) (Neel 1999). The migratory bird species that occur or may occur within the area of the Proposed Action are shown in Table 3-5.

TABLE 3-5. MIGRATORY BIRDS THAT OCCUR OR MAY OCCUR IN THE PROJECT AREA.

Common Name	Scientific Name	Habitat Association	Presence or Absence of Suitable Habitat
Game Birds of Conservation Concern			
Dove, mourning *	<i>Zenaida macroura</i>	Open woodland, forest edge, cultivated lands with scattered trees and bushes, parks and suburban areas, arid and desert country and second growth.	Present
Bird Species of Conservation Concern			
Eagle, golden **	<i>Aquila chrysaetos</i>	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions.	Present
Falcon, prairie	<i>Falco mexicanus</i>	Primarily open situations, especially in mountainous areas, steppe, plains or prairies.	Present
Hawk, ferruginous**	<i>Buteo regalis</i>	Grasslands and semidesert shrublands; nest in isolated trees, on rock outcrops, or ground	Present
Shrike, loggerhead **	<i>Lanius ludovicianus</i>	Open county with scattered trees and shrubs, savanna, desert scrub, and occasionally open woodland.	Present
Sparrow, Brewer's	<i>Spizella breweri</i>	Strongly associated with sagebrush over most of range, in areas with scattered shrubs and short grass.	Present
Sparrow, sage	<i>Amphispiza belli</i>	Strongly associated with sagebrush for breeding; also found in saltbush brushland, shadscale, antelope brush, rabbitbrush, black greasewood, mesquite, and chaparral.	Present
Thrasher, sage	<i>Oreoscoptes montanus</i>	Found in relatively undisturbed shrub-steppe habitats within areas of tall/dense big sagebrush.	May be present
Sparrow, vesper**	<i>Pooecetes gramineus</i>	Nests in various open scrub habitat from high elevation valleys to higher mountain slopes and basins.	May be present
Sage-grouse, Greater**	<i>Centrocercus urophasianus</i>	Exposed sage brush-covered slopes, sage brush uplands	May be present

*Game Birds Below Desired Condition (GBBDC)

** BLM Sensitive Species

3.3.3 Cultural Resources/Native American Concerns

On December 6, 2008, Far Western Anthropological Research Group, Inc. (Far Western) completed a Class III inventory for the Proposed Action. This project entails a 160-acre parcel where MMM is

proposing to expand their current operation. Currently, about a 50-acre portion of their existing pit extends into the project area. As such, this disturbed portion of the project parcel was not inventoried. Total acreage is 160 acres with 110 acres inventoried for this project.

During the 2008 investigation, Far Western re-located a previously recorded prehistoric site, a previously recorded prehistoric isolate, and documented five new cultural resource sites (four prehistoric and one historical in age) and one prehistoric isolate. The previously documented cultural resource was determined ineligible to the National Register of Historic Places (National Register) under all criteria by the BLM Carson City District Office. None of the sites are eligible for listing on the National Register. The isolated finds are a resource class categorically deemed not eligible for the National Register (per the State Protocol Agreement between the BLM, Nevada and the Nevada State Historic Preservation Office).

The cultural resources survey meets Condition 5 of the 2004 Washoe County Special Use Permit.

Since 2004, the Reno-Sparks Indian Colony has been consulted regarding the cultural resource management and preservation associated with mineral recovery at the existing quarry location. In 2006 and 2007, Reno-Sparks Indian Colony was again consulted regarding affiliation and potential interest in the proposed conveyor system element of the Proposed Action. Reno-Sparks Indian Colony was approached to review alternatives that may have included crossing adjacent Reno-Sparks Indian Colony property between the MMM Broken Hill Extension and the existing processing operations. During the review process, Reno-Sparks Indian Colony expressed no indication of traditional, cultural, or religious property concerns associated with the project area or Proposed Action. Additional consultation with the Reno-Sparks Indian Colony will occur during the public review of this EA.

3.3.4 Geology and Soils

Geology

The project site is part of a large area underlain by Pre-Tertiary plutonic igneous rocks (Nevada Bureau of Mines and Geology 1969). The existing aggregate quarry and the Proposed Action lie almost entirely within an area of quartz diorite. The quartz diorite at the aggregate quarry is highly fractured, making it ideal for quarrying by open pit methods. A petrographic description of the quartz diorite shows a phaneritic texture, composed of medium-grained, subhedral to euhedral plagioclase phenocrysts in a fine-grained quartz-feldspathic groundmass. Mafic minerals (hornblende and biotite) account for approximately 20 percent of the total mineral composition.

Younger lacustrine sedimentary rocks are reported to overly the quartz diorite along portions of the east facing slope north of the quarry and in limited areas along the south side of Stormy Canyon in the vicinity of the project site. A recent alluvial deposit underlies the surface slopes and forms the valley fill east of the quarry. Table 3-6 provides the description of each geological unit identified for the location of the Proposed Action and adjacent surround area. A geologic map identifying the basic rock units is presented in Figure 3-1.

Soils

The Natural Resources Conservation Service (NRCS) indicates that the following types of soil units cover the project location: the Stodick stony loam, the Xman very stony loam, the Acrelane-Rock outcrop complex and the Linhart stony coarse sand. Both the Acrelane-Rock outcrop complex and the Xman very stony loam may be found in the upper elevations of the project site primarily in the uplands. The Stodick stony loam are found at relatively lower elevations of the project site area and on the back slopes and side slopes of pediments, and on alluvial fans respectively. The Linhart stony coarse sand is found in the southeastern portion of the project area around the quarry pits. All of the soil units form at elevations above 4,400 feet. The soil type, pits, represents the Spanish Springs Quarry location. Figure 3-2 provides a map of the site location and the representative soil types.

TABLE 3-6. GEOLOGIC UNIT DESCRIPTIONS LOCATION OF THE PROJECT AND SURROUNDING AREA.

Type	Description
Qa	Alluvium Holocene alluvium, restricted to valley bottoms and localized portions of some fan surfaces. Unconsolidated, predominantly arkosic, sand and gravelly sand deposited as sheetwash and wash alluvium in Holocene to modern channels or as broad, low-gradient alluvial plains. Locally contains abundant medium sand reworked from older aeolian deposits (e.g., at the mouth of unnamed canyon in NW¼, NW¼, Sec.3, T21N, R20E). No soil development except on very localized Holocene terraces (not mapped), where weak 10 to 15 centimeter (cm) gray-brown A horizon is present in some places. Includes undifferentiated alluvial fan and colluvial deposits in upland areas.
Qoa	Older Alluvial Fan Deposits Alluvial fan remnants with moderately to deeply incised surfaces, primarily consisting of semi-consolidated pebbly to bouldery arkosic sand derived from Hungry Ridge. In some areas, these deposits, especially on the eastern margin of Hungry Ridge, these deposits grade into deposits of Qdg [not defined] that may or may not contain corestones of relatively unweathered intrusive lithologies.
Kgr	Granite Very light-gray, pinkish-gray weathering medium grained equigranular to locally porphyritic rock consisting of plagioclase (15-40%, avg. 29%), locally euhedral alkali feldspar (30-40%, avg. 33%), anhedral to rounded quartz (30-43%, avg. 33%), biotite (1-5%, avg. 4%), iron-titanium oxides (1%), trace zircon, and rarely, sphene. Alkali feldspar occurs locally as poikilitic megacrysts (1.5 x 2.5 cm) and muscovite is locally present as separate crystals or intergrown with biotite. Weathers to corestones (1 to several meters in diameter) and grus. Appears to intrude Kmr [monzodiorite and diorite of Rock Ridge] and Kgd [granodiorite], where it is locally aplitic.
Kmr	Monzodiorite and Diorite of Rocky Ridge Commonly medium-gray, porphyritic to subhedral granular plutonic igneous rock consisting of euhedral gray plagioclase (55-70%, <4 x 8millimeter [mm]); interstitial, fine-grained, anhedral alkali feldspar (10-25%) and quartz (~3%); distinctive, thin, euhedral books of biotite (~7%, 4mm); green hornblende (7-14%, 1 cm); and accessory sphene and iron-titanium oxides (3%). Sphene commonly rims the iron-titanium oxides.
Ts	Sedimentary Rocks of Hungry Valley White, very light-gray, very pale-orange, and greenish-yellow, tuffaceous, coarse to fine volcanoclastic to feldspathic or arkosic bedded sandstone, pebbly sandstone and conglomerate interbedded with tuffaceous siltstone. Rare tufa and ostracode or pisolitic limestone. Finer grained beds are more common basinward. Locally cemented with calcite or, rarely, iron oxides. Lies with angular unconformity or nonconformity on most older Tertiary and pre-Tertiary rocks. Locally overlain by a very thin veneer pediment deposits and lag (particularly west of the axis of Hungry Valley), which is not mapped where the underlying unit can be discerned. Thickness probably <100 meters (m) on Hungry Ridge; thicker below alluvium in valley areas.

TABLE 3-6 (Continued). GEOLOGIC UNIT DESCRIPTIONS LOCATION OF THE PROJECT AND SURROUNDING AREA.

Type	Description
Twss/Twss	Tuffs of Whiskey Spring Sequence of several (probably three or more) commonly moderately welded rhyolitic ash-flow tuffs. Usually light-brown-weathering, pale-orange rocks containing phenocrysts of platy-fractured glassy sanidine, plagioclase, and biotite, with only a trace of quartz. Moderately welded ash-flow tuffs commonly contain phenocrysts (~15-18%) of sanidine (11%) plagioclase (4-5%), and biotite (commonly <1%, but >2% in some tuffs, which also may have plagioclase > sanidine). One ash-flow unit contains only ~5% phenocrysts. Lithic fragments (~1%, 0.5-3 cm) include metasilstone, granodiorite, intermediate lava, and ash-flow tuff similar to the Whiskey Spring. Basal vitrophyre locally; in places, a "nubbly" weathering surface is developed by closely spaced joints in devitrified vitrophyre near the base. Deposited on a locally irregular erosion surface on pre-Tertiary rocks; at one site, overlies a few meters of volcanoclastic sandstone and granitic-cobble and -boulder conglomerate, unit Twss. Compressed pumice (commonly >5%, 1 x 5-8 cm) above basal nonwelded zones may have aspect ratios of approx. 1:5; one nonwelded unit includes blocks of pumice up to 45 x 75 cm. Thickness 150-250 m. An upper ash flow is 29.72 +/- 0.10 mega-annum (Ma); three samples from ash flows near the base average 31.0 Ma.

Source: Nevada Bureau of Mines and Geology. 2005. Preliminary Geologic Map of the Griffith Canyon Quadrangle, Nevada. Map OF-99-4.

The Acrelane soil forms on moderate to very steep slopes (15 to 20 percent) in residuum derived from granite rocks. These soils are typically shallow, well drained, and of moderate permeability. Available water capacity is very low. Runoff from these soils is rapid and the hazard of water erosion is high. These soils have been classified by the NCRS as a moderate to high runoff soil (Hydrologic Soil Group C). Rock outcrop occurs on adjoining crests and ridgetops with the Acrelane soil.

The Xman very stony loam forms on moderate slopes (15 to 30 percent) in residuum derived from altered volcanic rocks. These soils are typically shallow, well drained, and of low permeability. Available water capacity is very low. Runoff from these soils is medium to rapid and the hazard of water erosion is moderate to high. These soils have been classified by the NRCS as a high runoff soil (Hydrologic Soil Group D).

The Stodick stony loam forms on moderate to very steep slopes (30 to 50 percent) in residuum and alluvium derived from lacustrine sedimentary rocks. These soils are typically shallow, well drained and of moderately low permeability. Available water capacity is very low. Runoff from these soils is rapid and the hazard of water erosion is high. These soils have been classified by the NRCS as a high runoff soil (Hydrologic Soil Group D).

The Linhart stony coarse sand forms on shallow slopes (4 to 8 percent) of alluvial fans and is derived from mixed alluvium. These soils are typically shallow, somewhat excessively drained and of high to very high permeability. Available water capacity is very low. These soils have been classified by the NCRS as a moderate to high runoff soil (Hydrologic Soil Group C).

3.3.5 Land Use And Access

The Proposed Action is located on a quarter section of land, 178.29 acres, that is managed by the BLM. A portion of this quarter section is currently in active use by the Spanish Springs Quarry. The remaining portion of the quarter section of land that is not in use by the Spanish Springs Quarry is undeveloped and undisturbed, except for recreational use of Stormy Canyon discussed in section 3.3.7. Property ownership in the vicinity of the project is shown in Figure 1-3 and listed below.

- The Spanish Springs Quarry extends to the adjacent private property to the east of the project area; this property is owned by MMM.
- Eagle Canyon Subdivision to the southeast.
- A portion of the public land in the southern portion of Section 22 is leased by the Spanish Springs Pilots Association for small aircraft landing and a hangar facility.
- The Broken Hill Extension is located to the southwest of the project area; this property is owned by MMM.
- The Reno-Sparks Indian Colony is located west of the project area.
- Private undeveloped land is located north of the project area.

The Proposed Action occurs within the Paiute Grazing Allotment, but is not in a wild horse or burro herd management area. The Proposed Action is in conformance with the Lahontan Resource Management Plan and the Spanish Springs Valley Quarry is in conformance with the Washoe County Comprehensive Plan.

The approved Washoe County Regional Open Space Plan (December 1994) indicates that the aggregate quarry area supports no significant wildlife habitat, includes no historic/prehistoric cultural resources, and is not located in an area designated for open space. Existing aggregate pits, including the existing Spanish Springs Quarry and proposed Broken Hill Extension, have not been listed as Open Space Resources in the Regional Open Space Plan.

The Washoe County Land Use Designation for the area of and around the Spanish Springs Quarry is General Rural (GR), and proposed quarrying activities are consistent with Washoe County General Rural Regulatory Zone Development Guidelines.

The Spanish Springs Pilots Association Airport is a public light aircraft landing strip and hanger located on public lands approximately one-quarter of a mile south of the contract area (refer to Figure 1-3). The airport hanger is located at the north end of the landing strip. Access to the Spanish Springs Pilots Association landing strip and hanger is via unimproved dirt roads which connect the airport to Eagle Canyon Drive, to the south.

The existing operation limits access by the general public for public health and safety reasons, while allowing access to Stormy Canyon from the west. The distribution of property ownership in the project area limits public access to the contract area from the east.

BLM and Washoe County have entered into an agreement for coordinated planning and management of the public lands within section 22 for open space and future development of recreation under the Recreation and Public Purposes Act.

3.3.6 Noise

Current sources of noise exist from the operations at the quarry, heavy equipment operations, material excavation and recovery, traffic on Pyramid Lake Highway and secondary roads, and aircraft from the Reno/Tahoe International Airport and a nearby small aircraft landing. An environmental noise analysis conducted in 2004 measured noise levels from current quarrying operations at the existing Spanish Springs Quarry (Appendix G). The analysis results were used to predict noise levels at the nearest residences for the proposed Broken Hill Extension, southwest of the project area.

The noise analysis accounts for noise generated by bulldozers, wheel loaders, and crusher operations at the existing Spanish Springs Quarry. Noise level measurements were obtained during a worst-case hour when quarrying operations were continuous. The receptors considered relevant to the noise analysis of the Proposed Action are the residents living in the Spanish Springs Valley subdivision about 2,000 feet south-southeast of the quarry.

The noise analysis found that existing quarrying operations resulted in an average noise level, or noise level equivalent (Leq) of 65 decibels (dB) and a maximum noise level (Lmax) of 74 dB 500 feet away from operations. These noise levels measured at the existing quarry were used in accepted noise prediction methodologies to determine the day/night average noise level (Ldn) at the nearest receptors for the Proposed Action. A conservative assumption of continuous operating hours from 6:00 am to 12:00 am was used. The predicted Ldn is 47 dB is well below the Washoe County exterior noise level criteria of 65 dB Ldn at the property line of residential uses.

This information is relevant to predict noise impacts for the continued operations at the existing Spanish Springs Quarry because general operation practices have remained the same. In addition, there are no new sensitive receptors in the project area. (See Appendix G).

3.3.7 Recreation

The Stormy Canyon jeep trail is a recreational access road to the BLM property. According to the Washoe County Regional Open Space Plan (Washoe County 1994) the public uses the property for hiking and OHV use.

3.3.8 Socioeconomics

MMM expects to quarry an additional 20 million tons of aggregate over the life of the quarry, at an average rate of one million tons per year. This material would be processed at the existing

facilities at the Spanish Springs Quarry and would be intended for use by the Reno-Sparks construction industry. The quarry currently employs about 25 workers who live in the Reno/Sparks community and use services in this area.

Reno and Sparks, Nevada are the closest cities to the Spanish Springs Quarry. The Nevada State Demographer's Office estimated the 2008 population of Washoe County to be 423,833. Of this total, Reno represents a population estimated to be 223,012 with Sparks at 91,684, leaving a remainder in the unincorporated county of 109,137. Estimates compiled by the Economic Development Authority of Western Nevada, the U.S. Department of Commerce, and the University of Nevada, Bureau of Business and Economic Research indicate that the population of the Reno/Sparks Metropolitan Statistical Area is expected to grow 1.48 percent annually between 2008 and 2030. The Spanish Springs Valley had a recorded population of 9,018 according to the 2000 census. The estimated growth for Spanish Springs between 1995 and 2015 is expected to be 20.8 percent (Washoe County 2005).

3.3.9 Traffic

Access to the project site is via Sha-Neva Road from Pyramid Lake Highway, which is approximately 1.2 miles to the east. Pyramid Lake Highway is the major north-south thoroughfare between Reno/Sparks and Pyramid Lake. When the Spanish Springs Quarry is active, there are approximately 150 trucks per day (associated with the Spanish Springs Quarry) using these public roads. There is another quarry in the area that also uses this road.

3.3.10 Visual Resources

The BLM manages visual resources according to four levels of Visual Resource Management (VRM) classes ranging from Class I to Class IV. Class I is the most protective, allowing only very limited management activity. Class II allows management activities that would not attract the attention of the casual observer. Class III allows management activities that may attract attention, but should not dominate the casual observer. Class IV allows major landscape modification. The project area is designated as VRM Class III. The objective of VRM Class III is to partially retain the existing character of the landscape (BLM 1986).

The site topography is shown on Figure 1-1 and 1-2. The project site lies within the Sierra Nevada physiographic province. The elevation ranges from approximately 4,550 feet to 5,170 feet within the existing contract area. Clear skies and broad, open vistas characterize this landscape. The proposed mineral material sales element is located on a steeply sloping southeast-facing hillside with typical grades of approximately 2.0H:1.0V or steeper. The mineral material sales area is primarily a south-facing slope dropping into Stormy Canyon to the south and rising to a north facing slope at the southern extent of the project area. The south facing slope has been developed on the eastern side under the existing mineral material sale. The western side remains undeveloped. The conveyor and access road site is located at a cross segment of the Stormy Canyon and the slope is approximately 2.0H:1.0V and steeper at the canyon walls. The area outside of the canyon is generally flat with a 1.5H:1.0V. The conveyor

and access road site would occupy both the northern and southern sides of a segment of the canyon. This site continues to the south-southeast for approximately 500 feet to a fence line.

The existing product stockpiles, aggregate processing equipment and ancillary buildings are situated on a slope-toe immediately east of the aggregate pit where grades are relatively gentle. The proposed mineral material sales element is a continuation of present quarrying and production at the quarry. The proposed element would allow for the continued quarrying of the active face that located along the upper portions of the steep south and east facing slopes and ridge top immediately west of the existing aggregate quarry.

Currently, the predominant visual feature at the project site is the active face of the aggregate quarry. The active face is visible from residence to the southeast and from Pyramid Lake Highway. The existing product stockpiles, asphalt plant, stackers and ancillary buildings are also visible from various locations south, east and north of the project.

3.3.11 Water Quality (Surface/Ground)

Groundwater

The Spanish Springs Quarry lies within the Spanish Springs Valley Hydrographic Basin Segment of the Truckee River Groundwater Basin. Based on drilling records obtained by the Department of Conservation and Natural Resources, Division of Water Resources (NDWR), a total of 10 wells have been drilled within the general area. Of these 10 wells, four are located within a one mile radius of the quarry.

Figure 3-3 provides the locations of the wells. The closest well to the Spanish Springs Quarry is located on property adjacent to the site near Boneyard Flat. The “Well Driller’s Report” (Log No. 86025) for this well indicates that the well produces groundwater from decomposed granite and clay materials at a depth greater than 142 feet below grade surface (bgs). Static water level in this well is approximately 38 feet below ground surface and the groundwater elevation for the area is approximately 4,482 feet above mean sea level.

The elevation of static water above the zone of production suggests that the local aquifer in the site vicinity may be semi-confined or confined. A clay layer approximately 10-feet thick is identified above the water production zone from 87 to 96 feet in the lithologic log for this well. (BLM 1997, Nevada Division of Water Resources 2005a).

Well logs for the following wells are provided in Appendix E:

- NDWR Log No. 37603; NW1/4, NE1/4, Sec 15, T21N, R20E
- NDWR Log No. 42469; NE1/4, SW1/4, Sec 14, T21N, R20E
- NDWR Log No. 22108; Sec 22, T21N, R20E (no log available)
- NDWR Log No. 86025; NE1/4, Sec 15, T21N, R20E

The bottom elevation of the Spanish Springs Quarry is at approximately 4,680 feet above mean sea level. Based on the static water elevation for the nearest water level, the quarry does not intercept groundwater (BLM 1997).

Naturally high arsenic levels above Federal Drinking Water Maximum Contaminant Levels (MCL) of 10.0 parts per billion (ppb) have been detected in the samples from monitoring wells in the Spanish Springs area. These samples were collected approximately two miles to the south (BLM 1997) of the Spanish Springs Quarry. Naturally occurring arsenic in groundwater for this area is associated with warm thermal waters. In other wells located south, east, and north of the quarry, arsenic was detected in groundwater samples at or below the MCL (NDEP 1996). Arsenic data used and obtained for the project location is maintained by the NDEP because of the change in regulation to 10 ppb (NDEP 1996). The NDEP provided a spreadsheet with all wells exceeding the arsenic standard of 10 ppb and is provided in Appendix F.

MMM has been issued individual Groundwater Discharge Permit NEV2004529 for the use and discharge of tertiary treated wastewater at the Spanish Springs Quarry. Facility operations potentially affecting groundwater are administratively regulated by the NDEP under the terms and conditions issued in this discharge permit.

Wells from the Washoe County Utility District that were sampled and are in the vicinity of the Proposed Action are as follows:

- Spanish Springs Site (SSP) 5
- Spanish Springs Site (SSP) 6
- Spanish Springs Site (SSP) 7
- Spanish Springs Site (SSP) 8
- Spanish Springs Site (SSP) 10

The “Well Driller’s Report”, a site map, and analytical data obtained from the 1997 EA for the Mineral Material Sale N-60222 are provided in Appendix E (BLM 1997).

Water quality information obtained indicates that arsenic is present above EPA standards in the fines generated by the ore crushing and washing activities at the site. It was determined that this process did not contribute to the elevated arsenic levels in groundwater because of the low permeability of native soils below the quarry (NDEP 1996).

Surface Water

Prominent streams, rivers, lakes, or bodies of water are not present in the vicinity of the Proposed Action. The nearest watercourse is the Stormy Canyon Drainage, an ephemeral stream that drains the foothills at the south end of Hungry Ridge. This drainage is situated north and west of the quarry, and drains southeast toward the Spanish Springs Valley, eventually intercepting the Orr Ditch, which is located approximately 3.5 miles to the southeast of the quarry.

The Stormy Canyon Drainage is dry except during periods of heavy rain and thunderstorms. On February 3, 2006, a letter documenting a reversal in the decision of jurisdiction was received from the USACE. The decision determined that Stormy Canyon is subject to the CWA Section 404 due to the tributary originating in Tribal lands. Plans for the conveyor and access road project would require a 404 permit from the USACE prior to the BLM issuing a ROW authorization for the conveyor and access road. Depending on the outcome of the 404 permit application, the USACE may require additional mitigation measures to impacts associated with this part of the Proposed Action. Supplemental NEPA compliance may be required by the BLM to address this mitigation.

A playa, known as Boneyard Flat, is located on adjacent private lands approximately three quarters of a mile to the northeast of the quarry. The playa receives storm water runoff from areas north of the project site.

Stormwater at the existing quarry site is managed under General Permit for Stormwater Discharge Associated with Industrial Activity NVR050000 issued by the Nevada Division of Environmental Protection Bureau of Water Pollution Control. Stormwater Management is executed in accordance with a SWPPP developed to control and divert stormwater to minimize erosion patterns and impacts to downstream or topographically depressed surface water bodies, features, or structures.

3.4 ALTERNATIVE B: NO ACTION

The affected environment for the No Action Alternative is the same as that described above for the Proposed Action.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential direct/indirect/residual impacts to resources that may result from the Proposed Action or Alternatives, as well as identifies the potential mitigation measures and monitoring needs associated with the specific resources.

4.1 ALTERNATIVE A: PROPOSED ACTION

The following sections provide specific information about the impacts of the Proposed Action on the environmental resources identified in Section 3.3. If an impact is present, potential mitigation measures are identified in section 4.3.

4.1.1 Air Quality

The proposed Mineral Material Sale element will involve continued open pit quarrying. Emissions from quarrying activities would be primarily fugitive dust emissions (PM₁₀ and PM_{2.5}) from the use of earth moving equipment, such as bulldozers, loaders, screening equipment, and haul trucks. These activities are considered continuous activities and therefore it is expected that air contaminant emissions from the quarrying activities would result in minor short-term impacts on air quality during quarrying operations. Overall impacts to air quality caused by the Proposed Action are not anticipated to vary from current conditions because the volume of material quarried on a daily basis under the Proposed Action is similar to the current daily volume.

Fugitive dust that may be generated by the physical disturbance of soils caused by quarrying activities would be minimal as a comprehensive dust control plan for the project would outline the options for controlling fugitive dust during quarrying operations. Wet suppression including spray bars are common methods used for controlling dust emissions at quarrying sites. Other fugitive dust control measures may be required under the above-mentioned dust control permit, to be obtained by MMM prior to construction. Therefore, it is expected that an increase in air contaminant concentrations from the proposed quarrying activities would not be large enough to cause or contribute to an exceedance of an ambient air quality standards in the Spanish Springs area.

The proposed conveyor belt and service road element would create additional new land disturbances as a result of the access road and the conveyor construction and operation would require an authorization to construct and a dust control permit. Emissions from construction activities would be primarily combustion products such as VOC, NO_x, CO, and SO_x from the use of earth-moving equipment, such as bulldozers, loaders, rollers, tractors backhoes, end-dump trucks, and paving equipment. Fugitive dust emissions such as PM₁₀, and PM_{2.5} would also result from construction, material handling and hauling. It is expected that air contaminant emissions from construction activities would result in minor short-term impacts on air quality in the immediate vicinity of the construction site. Each construction operation would be relatively

independent of the other, although, there may be some overlap. In addition, these activities are considered one-time activities (i.e., the construction activities would not continue past the date of completion). Based on the phased, one-time construction activities, it is expected there would be no long-term impacts to air quality in the Spanish Springs area. During construction and conveyor operation, dust management practices will be used.

Wet suppression, covered conveyors, and limiting the idling time of construction equipment are common methods used for controlling dust emissions at construction sites. Other fugitive dust control measures may be required under the above-mentioned dust control permit obtained by MMM. Therefore, emissions from the increase in construction are expected to be within the NAAQS and the rules and regulations of the EPA and Washoe County AQMD.

4.1.2 Biological Resources

4.1.2.1 Vegetation

Short-term vegetation loss would occur in the vicinity of the Proposed Action due to quarrying and construction activities. Long term vegetation loss would occur at the conveyor location and around access roads, and at the location of Mineral Material Sale. This loss of vegetation has the potential for three main direct impacts.

Vegetation composition is critical to the definition of habitat for a specific species. Changes to or loss of vegetation often implies loss of habitat. The project site is defined as sagebrush habitat. Loss of vegetation at the site would affect those species requiring sagebrush habitat as discussed in section 3.3.2. Migratory bird species may be sensitive to changes in habitat structure, especially during the nesting season and in terms of food availability.

Loss of vegetation can negatively impact food sources such as insect and small mammal populations as well as limit availability of plant resources. Sage grouse depend on dense sage brush overstory and herbaceous understory with large insect base during part of their life cycle. This species also typically nests in the same specific area in successive years. Loss of sagebrush habitat in localized areas may decrease suitable habitat and impact food resources for sage-grouse. Pygmy rabbits would also be negatively impacted by changes in vegetation as they generally require tall dense sagebrush. This impact may be longer term than that for other species as it may take sagebrush many years to grow to appropriate height and density for pygmy rabbits.

4.1.2.2 Noxious Weeds/Invasive Non-Native Plant Species

Loss of vegetation and increased disturbed landscape due to construction activities increases the risk for noxious weed invasion. Disturbed soils are more susceptible to invasion and construction equipment may bring source seeds and plants to the site.

4.1.2.3 General Wildlife and Fisheries

Due to the limited area of the new disturbance compared to the existing disturbance, impacts associated with the Proposed Action on general wildlife are minimal. Given the habitat that exists in the vicinity of the Proposed Action, reclamation activities such as recontouring and revegetation will be able to be used to mitigate impacts on plant and wildlife habitat.

There is no permanent water in the project area to support fish.

4.1.2.4 BLM Sensitive Species

Loss of vegetation can negatively impact sage grouse and pygmy rabbits. Sage-grouse depend on dense sage brush overstory and herbaceous understory with large insect base during part of their life cycle. This species also typically nests in the same specific area in successive years. Loss of sagebrush habitat in localized areas may decrease suitable habitat and impact food resources for sage grouse. Pygmy rabbits would also be negatively impacted by changes in vegetation as they generally require tall dense sagebrush. This impact may be longer term than that for other species as it may take sagebrush many years to grow to appropriate height and density for pygmy rabbits.

Due to the limited area of the new disturbance compared to the existing disturbance, impacts associated with the Proposed Action on other BLM sensitive species are not anticipated.

As mentioned in Section 3.3.2.4, Webber's Ivesia does not exist in the vicinity of the project, and further, the project area does not exhibit the habitat necessary for Webber's Ivesia.

4.1.2.5 Migratory Birds

Human disturbance could negatively impact migratory bird species as many are easily flushed and several species avoid human activities. Impacts affecting migratory bird species will be minimized by surveying the project area for migratory birds, and if found, disturbance will be limited during nesting season.

4.1.3 Cultural Resources

There are no cultural resources eligible for listing under the National Register that are present in the project area; therefore, there would be no impacts to cultural resources from the Proposed Action. In the event that any cultural resources are identified during excavation or other activities associated with the construction activities at this site, BLM would be notified and a stop work authorization would be made until further surveys are completed as identified by BLM.

No specific Native American religious or heritage concerns relative to the Proposed Action have been identified to date. Throughout project development and execution, impacts to cultural resources will be avoided, and should project development reveal cultural resources or funerary objects or artifacts, the conditions and limitations specified in the Washoe County Special Use Permit directs appropriate response notifications and mitigation procedures that engage the Reno-Sparks Indian Colony.

Per the 2004 Washoe County SUP, Condition 4: “The following note shall be placed on all construction drawings: Should any prehistoric or historic remains/ artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the Department of Museums, Library and Arts, and the Reno-Sparks Indian Colony shall be notified. The period of temporary delay shall be defined in the Cultural Resources Management Plan.”

4.1.4 Geology and Soils

Under the proposed Mineral Material Sale element, approximately 75,000 cubic yards of topsoil would be removed throughout the life of the project and approximately 30 additional acres of land will be disturbed. The cumulative for total land disturbance for the project lifetime would be approximately 64 acres (see Table 2-1).

The area of the proposed mineral material sale is a moderate terrain with elevations ranging from approximately 4,850-feet to 5,125-feet above sea level. The completed elevation of the quarry would range from approximately 4,700-feet to 5,100 feet above sea level (Figure 2-3). The prominent changes in the topography from the proposed expansion would be the advancement of the current quarry pit to the west-northwest and the creation or enlargement of topsoil stockpiles.

Mitigation will involve contouring the disturbed land to blend with the surrounding natural topography and to facilitate revegetation. Impacts to soils would be partially mitigated through the use of soil stockpiling that will be used for reclamation efforts that will be initiated when quarrying activities are concluded.

It is anticipated that approximately 5.33 acres of land will be disturbed for the proposed conveyor belt and access road element. Topsoil and vegetation would be removed during grading activities for the access road as well as the occurrence of topsoil disturbance and vegetation removal during conveyor construction.

The natural surface contour of the land would be minimally impacted from the construction of the conveyor and associated access road. The conveyor is planned to be elevated on columns ranging from approximately 5-feet to 25-feet above the land surface and follow the existing topography. The access road will also follow the existing topography of the land. The conveyor would be elevated above Stormy Canyon to allow for the continued use for recreation by the public. There would be no significant geologic impacts as a result of the proposed conveyor

and access road element. Consequently, no mitigation measures for geology and soils are proposed.

4.1.5 Land Use and Access

The proposed Mineral Material Sale element would increase the size of the aggregate quarry through which recreation opportunities would be temporarily impacted. Access into these areas would be temporarily limited in order to mitigate potential public health and safety hazards that would accompany quarrying operations. The existing operation in the contract area currently limits access by the general public for public health and safety reasons, while maintaining access to Stormy Canyon from the west. The distribution of property ownership in the site vicinity limits public access to the contract area from the east.

Access to Stormy Canyon would be limited only during construction of the proposed conveyor belt and access road along the segment affected by the Proposed Action. Safety controls during construction would prevent the area from being accessed by the public. There are other ways to access public lands in the vicinity of the proposed ROW location. Following the construction of the conveyor and access road, unlimited access would be available to the public.

No other land use impacts are anticipated to be associated with the Proposed Action. No mitigation measures are required for this activity.

4.1.6 Noise

A noise analysis of the Broken Hill Extension was conducted for the Special Use Permit in 2004. The analysis was conducted to assess relative noise levels from quarrying operations at the existing Spanish Springs Quarry to predict the day/night average sound level, Ldn, from additional quarrying operations at the Broken Hill property. Given that this assessment was conducted for existing operations at the Spanish Springs Quarry, the conclusion that noise impacts to neighboring residences are below the Washoe County exterior noise level criteria of 65 dB Ldn remains applicable and relevant to impacts from the proposed mineral material sale element. Consequently there are no mitigation measures specified for the continuation of existing operations under the proposed mineral material sale.

The conveyor belt and access road element will temporarily increase noise during daytime hours during construction and operations. Based on the distance to the nearby receptors, these temporary increases in noise levels are determined to not be significant.

After construction, noise levels generated by the use of the conveyor would be significantly less than the noise generated by quarrying operations. The proposed conveyor belt and access road element is not expected to have additional significant noise impacts during operation that would cause exceedance of the Washoe County exterior noise level criteria at nearby receptors.

The Proposed Action is expected to add to the amount of noise in the Spanish Springs Valley; however, long-term noise impacts from the conveyor are not expected to be significant. Consequently, mitigation measures to attenuate noise associated with construction of the conveyor are not proposed.

4.1.7 Recreation

Public access through Stormy Canyon may be temporarily restricted during the construction phase of the project due to the presence of heavy equipment and safety issues. The location would be secured to prevent access for safety concerns. There are other ways to access public lands in the vicinity of the proposed conveyor belt and access road location. Coordination would occur with the BLM should limited access to Stormy Canyon be needed during construction.

4.1.8 Socioeconomics

The economic growth of the Reno/Sparks metropolitan area will increase the need for aggregate, asphalt, and concrete. Since transportation of these items to where they are needed contributes significantly to their cost, the proximity of the project site to Spanish Springs and the Reno/Sparks metropolitan area makes it economically advantageous to the consumers of the material. Impacts to the construction industry would therefore be beneficial.

In addition, if the Mineral Material Sale is renewed, there would be a continuation of current levels of employment at the quarry. The approval of the conveyor and access road element would potentially extend the timeframe for employment at the Spanish Springs Quarry. Finally, the Mineral Material Sale element would extend the length of time that royalty payments would be made to the BLM. There would be positive long-term socio-economic impacts if the Proposed Action is approved.

The Proposed Action would have no impact on the Spanish Springs Airport. Because impacts associated with the Proposed Action are not significant, no mitigation measures are proposed.

4.1.9 Traffic

During periods of operation, the current average traffic generation for this project is 150 round-trips per day and consists primarily of tractor-trailer type vehicles hauling aggregate from the pit to construction sites within 30 miles of the project site. This level of traffic could vary with occasional large construction projects. Under the proposed renewed mineral material sale, the level of truck trips would remain approximately the same. The traffic generated from this project would use the existing paved access road which is currently in use exclusively for ingress and egress to the Spanish Springs Quarry. This access road intercepts the nearest major arterial which is Pyramid Lake Highway. Haul trucks would use Pyramid Lake Highway en route to the Reno/Sparks metropolitan area.

It is expected that during conveyor and access road construction, there would temporarily be an additional 10 to 20 trucks trips per day; therefore, there would temporarily be a minor increase in the number of trucks that would access the area during construction of the proposed conveyor belt and access road. However, given the existing uses of surrounding properties and associated commercial traffic, the amount of incremental impact is not significant.

Mitigation measures for public roads and highways relevant to the Proposed Action are not necessary.

4.1.10 Visual Resources

The project area is designated Class III for BLM prescribed VRM objectives. It is expected that the proposed Mineral Material Sale element would create a moderate change to the view from both within the subject property and from around the Spanish Springs Valley. The existing quarrying operations and development to the hillside are visible from the Spanish Springs Valley. Continued quarrying of the active face under the proposed renewed Mineral Material Sale would increase the area of disturbance; however, the range of views from which the disturbance is visible would not increase. See Figure 4-1 for final extent of disturbance.

The visual impacts to the project area would, in the short term, primarily affect the visual elements of color and texture due to the removal of vegetation and exposure of bare rock on the visible hillside. The level of change associated with the Proposed Action is classified as moderate. However, the successful reclamation of the site will minimize long term visual impacts. A copy of a visual resource checklist for three key observation points for the proposed mineral material element of the Proposed Action and associated site photographs are provided in Appendix D.

For the proposed conveyor belt and access road element of the Proposed Action, the natural topography and elevation of the site would be permanently changed on the 5.33 acres that would accommodate the road and conveyor. Recontouring would be required to accommodate drainage on the slopes of the walls of Stormy Canyon, and the installation of the conveyor would change the horizontal profile of the project location. However, visual impacts due to the conveyor and access road will have minimal impacts from Pyramid Lake Highway as the site is obscured by intervening terrain. A copy of a visual resource checklist for two key observation points for the proposed conveyor belt and access road element of the Proposed Action and associated site photographs are provided in Appendix D.

There are no vistas or observation areas impacted by the Proposed Action.

Following reclamation for the Proposed Action, there will be minimal impacts to the visual resources in the vicinity and the Class III objectives will be met. Therefore, no mitigation measures are necessary.

4.1.11 Water Quality (Surface/Ground)

Existing stormwater management and controls, as required by the existing General Permit for Stormwater Discharge Associated with Industrial Activity NVR050000 apply to all operation associated with the proposed mineral material sales element. Consequently, there would be no additional or modified impacts to stormwater or stormwater management. In addition, continued operations or expansions affecting surface area and mineral material above groundwater elevations are not expected to have impact groundwater quality. Given that the Spanish Springs Quarry operates under Groundwater Discharge Permit NEV2004529, which dictates conditions and limitations required to protect groundwater from on-going quarrying activities, continued operations are adequately regulated to prevent impacts to groundwater. Mitigation measures to preserve water quality from this proposed element are not required.

Technical evaluation of the site included a runoff analyses based on a 100-year, 24-hour storm event of 2.7 inches (National Oceanic and Atmospheric Agency 1973). Storm water diversion berms along the access route and conveyor would mitigate the potential for water pollution within the project site.

The Stormy Canyon drainage area is within the project area. Additional planning to divert storm water at the bottom of the canyon would be required to reduce impacts to storm water runoff from this drainage area. The SWPPP would be developed and implemented prior to construction.

During the planning process for the access road, USACE would be consulted on the placement of the access road as a part of obtaining a 404 permit. Because the Stormy Canyon tributary is an active drainage area, the access road should not impede the natural drainage pattern. However, during consultation with USACE, the alignment of the access road may be modified to address any concerns or minimize or avoid impacts to the drainage.

Since the depth to groundwater is approximately 200 feet below ground surface and the aquifer is believed to be semi-confined or confined, groundwater quality is not expected to be impacted by the Proposed Action. Therefore, no mitigation measures are necessary.

4.2 ALTERNATIVE B: NO ACTION

Under the No Action Alternative, the BLM would not grant MMM a ROW authorization requested for the conveyor and access road, and the BLM would not renew the Mineral Materials Sale Contract. For the proposed Mineral Materials Sale element, the No Action Alternative would result in no changes outside of current operations at the quarry, to any environmental impacts on resources in the immediate area. Under the No Action Alternative, quarrying operations at the Spanish Springs Quarry would cease at the termination of the current agreement, and reclamation plans, under the current quarrying plan, would be instated.

For the proposed conveyor belt and access road element, the No Action Alternative would not result in any environmental impacts on resources in the immediate area. The proposed conveyor and access road will reduce the impacts to the area, compared to the No Action Alternative, by providing a direct route to transport aggregate quarried from the Broken Hill Extension back to the existing Spanish Springs Quarry for processing and sale. Without this low-impact conveyor system on BLM property, the quarried aggregate would need to be hauled a greater distance via indirect routes on public roads, intermingling heavy trucks with existing traffic.

Washoe County has since required this direct access as a condition of approval of the 2004 Washoe County SUP on the Broken Hill Extension. Without the ROW authorization for the conveyor and access road, the existing SUP would be invalid. Alternate proposals to transport the quarried aggregate would need to be identified and alternate environmental impacts would need to be evaluated. Ultimately, the mineral deposit on the Broken Hill Extension may not be recoverable, leading to a reduced supply of aggregate for public and private construction projects.

4.3 MITIGATION

Given the environmental consequences discussed above, the following mitigation measures are recommended for the Proposed Action. These mitigation measures are organized by environmental media, and also include applicable conditions from the 2004 Washoe County SUP.

AIR-1: A comprehensive dust control plan for the project would outline the options for controlling fugitive dust during quarrying activities. In addition, air quality impact minimization and mitigation may include covering haul trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed) to reduce particulate matter emissions and deposition during transport. Furthermore, wheel washers to remove particulate matter that would otherwise be carried off-site by vehicles to decrease deposition of particulate matter on area roadways can be used coupled by minimizing operations during high wind conditions. Mitigation measures are also stipulated in permit conditions issued by Washoe County AQMD.

AIR-2: A comprehensive dust control plan for the project would outline the options for controlling fugitive dust during construction and operation of the conveyor and associated access road. In addition, air quality impact minimization and mitigation may include air quality monitoring, erosion control, uses of suppressants, maintenance and reclamation activities which would stabilize exposed surfaces in accordance with current, prudent engineering practices. Permit to Construct conditions and limitations issued by the Washoe County AQMD would also mitigate fugitive emissions in compliance with state and federal regulations. Dust control via water suppressant will be managed to avoid surface water impacts.

AIR-3 (Condition 8 from the 2004 Washoe County SUP): During the period of operation, the owner and/or operator will shall provide adequate on-site dust control in the pit area, on stockpiles, on all roads, and the conveyor to the satisfaction of the District Health Department. Applicant shall submit a copy of the air quality operations permit that includes the new quarry to the Department of Community Development before commencing operations in these new areas.

AIR-4 (Condition 17 from the 2004 Washoe County SUP): Applicant shall use reclamation water from the City of Sparks for dust control and landscape irrigation when it becomes available at the site. The Department of Community Development shall determine compliance with this condition.

BIO-1: Revegetation of disturbed areas in a timely manner following construction activities will help to minimize the impacts associated with loss of native vegetation. Revegetation with native species will restore sagebrush habitat thus minimizing long term loss of habitat for all concerned species. Additionally, efficient restoration of native vegetation would minimize the opportunity for noxious weeds to establish.

To the extent practicable, best management practices would be used to mitigate the potential for noxious weeds and promote native vegetation. A suitable growth medium (as determined through vegetation test plots) will be applied to all disturbed areas when topsoil is unavailable. Growth medium may include decomposed granite quarried from the sand pit located northwest of Boneyard Flats. Martin Marietta will coordinate with the Nevada Department of Agriculture for annual noxious weed surveys, following all State protocols. If noxious weeds are discovered now or in the future, a noxious weed management plan will be developed and implemented by Martin Marietta following guidelines set forth by the Nevada Department of Agriculture and the BLM.

If weed treatments are necessary, they will be completed in conformance with BLM manual 9011 and the Vegetation Treatments Using Herbicides in 17 Western States Programmatic Environmental Impact Statement. Weed treatment activities, if necessary, will be completed pursuant to the following proposals and reports:

For chemical control:

- Pesticide Use Proposal
- Pesticide Application Record
- Pesticide Use Report

For biological control:

- Biological Control Agent Release Proposal
- Biological Control Agent Release Record.

BIO-2: Revegetation of disturbed areas in a timely manner following construction activities will help to minimize the impacts associated with loss of native vegetation. Revegetation with

native species will restore sagebrush populations to minimize long term loss of habitat for all affected species. Additionally efficient restoration of native vegetation will reduce the opportunity for noxious weeds to establish. It should be noted, however, that revegetation is not always successful, especially in arid lands, and there is potential for native habitat to exhibit nonnative characteristics if techniques employed are not successful. To the extent practicable and effective, best management practices would be used to mitigate the potential for noxious weeds and promote native vegetation.

Impacts affecting migratory bird species can be minimized by minimizing disturbance during nesting season as many species are more sensitive to disturbance during this season.

BIO-3 (Condition 22 from the 2004 Washoe County SUP): Seed type, mix, and application quantity used in reclamation shall require approval of the Washoe-Storey Conservation District and the County Engineer before application. All disturbed land shall be contoured and seeded no later than the month of March in the Spring or the month of November in the fall of the year that quarrying activities in the area are completed. For slopes greater than 3:1 around rock outcroppings, the revegetation plan shall require the use of a “jute” erosion control blanket under the seed mix or other approved method of soil stabilization to be used in conjunction with the reseeding to promote growth and soil stabilization. Slopes that are visible from the valley or roadway shall have juniper trees planted randomly to match the amount of growth on surrounding undisturbed terrain. The Department of Community Development shall approve the number of trees and their location. At least one-half of all evergreen trees shall be at least seven feet in height and the remainder must be at least five feet in height at the time of planting. Temporary irrigation shall be provided until all vegetation required in this condition is established to the satisfaction of the Department of Community Development; the Department of Community Development shall determine compliance with this condition.

GEOLOGY-1: Mitigation measures to reduce the Proposed Action’s environmental impact would include the banking of topsoil for later use for vegetation restoration on the site, and the construction of berms and sediment traps to reduce wind erosion and stormwater runoff from the project area.

GEOLOGY-2: Soils removed during construction and road grading activities will be stockpiled and re-spread for vegetation restoration support when quarrying activities are completed and when conveyor equipment and the access road is removed and restored.

GEOLOGY-3: (Condition 19 from the 2004 Washoe County SUP): Topsoil, when encountered, shall be removed, stockpiled in a protected area, and used in slope reclamation. Additional topsoil shall be imported if the on-site amount is insufficient to establish growth. These stockpiles shall be either reseeded or otherwise treated to prevent wind and water erosion. The Department of Community Development shall determine compliance with this condition.

GEOLOGY-4: (Condition 21 from the 2004 Washoe County SUP): Reclaimed slope faces and the floor of the quarry shall be contoured to have a natural appearance by varying the topography

both horizontally and vertically and shall not exceed 3:1 in slope; no flat-slope faces or slope planes intersecting at 90-degrees angles shall be permitted. Steeper slopes due to bedrock outcroppings may be allowed on a case-by-case basis, and must be approved by the Department of Community Development and the County Engineer; such exceptions shall be limited in size and number, and shall be contoured as much as possible to resemble natural outcroppings. The Department of Community Development shall determine compliance with this condition.

GEOLOGY-5: (Condition 23 from the 2004 Washoe County SUP): All slopes created because of road and conveyor construction shall be immediately stabilized and reseeded. The Department of Community Development shall determine compliance with this condition.

CULTURAL-1 (Condition 4 from the 2004 Washoe County SUP): The following note shall be placed on all construction drawings: "Should any prehistoric or historic remains/artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the Department of Museums, Library and Arts, and the Reno-Sparks Indian Colony shall be notified. The period of temporary delay shall be defined in the Cultural Resources Management Plan."

CULTURAL-2 (Condition 5 from the 2004 Washoe County SUP): The applicant (in consultation with the Reno-Sparks Indian Colony) shall contract with a professional cultural resource consultant to prepare a Cultural Resources Survey before ground disturbance activity. Should cultural resources be identified, a Cultural Resources Management Plan shall be completed and submitted to the Department of Community Development, the Nevada State Historical Preservation Office, and the Reno Sparks Indian Colony at least sixty (60) days before any ground disturbance occurs. The Plan shall include provisions to mitigate the adverse impact on cultural resources including, but not limited to, confidentiality of information, cultural overview, date recovery and excavation procedures, Native American involvement and monitoring, and procedures for the care and relocation of any human remains and cultural items discovered on the site. The Plan will not preclude quarrying the site after mitigation is complete. The Department of Community Development, in consultation with the Reno-Sparks Indian Colony, shall determine compliance with this condition.

RECREATION-1 (Condition 16 from the 2004 Washoe County SUP): Public access shall be maintained to that portion of Stormy Canyon located on Bureau of Land Management lands for hikers and all terrain vehicles. The Department of Community Development shall determine compliance with this condition.

NOISE-1 (Condition 27 from the 2004 Washoe County SUP): Blasting, if required, shall be limited to Mondays through Fridays during the hours of 10:00 AM to 3:00 PM. The Department of Community Development shall determine compliance with this condition.

TRAFFIC-1 (Condition 29 from the 2004 Washoe County SUP): In no instance shall Eagle Canyon Drive be used as a route of ingress or egress to the quarry by vehicular traffic. The Department of Community Development shall determine compliance with this condition

WATER QUALITY-1 (Condition 7 from the 2004 Washoe County SUP): Applicant shall in no way increase drainage and/or runoff water to or from any adjacent property. The County Engineer shall determine compliance with this condition.

5.0 CUMULATIVE EFFECTS

A cumulative effect is defined under federal regulation as “...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

The purpose of the cumulative analysis in this EA is to evaluate the significance of the Proposed Action’s contributions to cumulative effects. The cumulative effects are the sum of all past, present (including the Proposed Action), and reasonably foreseeable future actions resulting primarily from, residential projects, recreation, quarrying and public uses.

Per NEPA Guidance (BLM Handbook H-1790-1), cumulative effects analysis needs to include only those resources on which the Proposed Action was found to have a direct or indirect effect. For the purposes of this EA, it was determined that the Proposed Action would contribute to cumulative effects for the following resources: air quality, biological resources, and geology and soils.

Geographic Scope

The geographic scope for these three resources has been defined. For air quality, the geographic scope is the Spanish Springs area. For biological resources and geology and soils, the geographic scope is Sections 9, 10, 15, 16, 21 and 22 of T21N, R20E, M.D.B.&M.

Timeframe of Effects

Two separate time frames are considered for this cumulative impacts analysis: short-term that looks at impacts for the next 10 years, and long-term that looks at impacts for the next 30 years, to the cessation of quarrying activities at the Spanish Springs Quarry.

5.1 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

Past and present activities within the geographic scope of this cumulative impacts analysis include residential use and development, quarrying, and recreational use. Reasonably Foreseeable Actions include further residential development, continued quarrying, and continued recreational use. Approval of the Proposed Action would directly result in the development MMM’s Broken Hill Extension for aggregate quarrying. However, the current quarrying plan presented by MMM indicates that levels of operation with the Broken Hill Extension would remain at existing levels as they would quarry to meet market demand, which is the current level of operation.

5.2 EFFECTS ANALYSIS

5.2.1 Alternative A: Proposed Action

Air Quality

Air quality in the Spanish Springs area is currently impacted by windblown dust, traffic, housing development and associated construction equipment, and heavy equipment and windblown dust associated with quarrying activities at the Spanish Springs Quarry. Impacts from these existing sources are considered low and the area is in attainment with the current NAAQS.

Operations at the Spanish Springs Quarry are currently, and would be in the future if the Proposed Action is approved, regulated by air and dust control permits from the Washoe County AQMD. Mining operations at the proposed Broken Hill Extension would be similarly regulated. Housing development in the Spanish Springs area has slowed in recent years due to the economic recession. While there is potential for much more construction in the valley, it is likely that it will not continue or resume at the rates of past years. While recreation may contribute to air quality concerns, the low use of the area for these purposes would likely create a low impact to air quality.

Consequently, the cumulative effects to air quality are minor to moderate.

Biological Resources

Biological resources in the Section surrounding the existing Spanish Springs Quarry are relatively not impacted. Resources at the current face of the quarry are impacted significantly as they are removed completely. Besides the quarrying activity, there is little impact to biological resources as there is little other development within the geographic scope and while the area is used for recreational purposes, the use is light and users appear to generally remain on existing trails.

With the approval of the Proposed Action, an additional 289 acres will be opened for disturbance and biological resources on site, namely the vegetation, will be removed. In the short-term, this area will lose vegetation cover at the location of the active quarries. However, neither site is known as critical habitat for game or special status species. The area outside the active quarrying areas is expected to remain relatively undisturbed. Long-term quarrying plans for both the existing Spanish Springs Quarry and the Broken Hill Extension include detailed reclamation plans to restore general topographical patterns and restore vegetation.

Consequently, in the short-term the cumulative effects to biological resources are moderate, and in the long term, the cumulative impacts to biological resources are minor.

Geology and Soils

Geology and Soils in the Section surrounding the existing Spanish Springs Quarry are relatively not impacted. The geology and soils at the current face of the quarry are impacted significantly as they are removed completely. Besides the quarrying activity, however, there is little impact to these resources as there is little other development within the geographic scope. With the approval of the Proposed Action, an additional 289 acres will be opened for disturbance and the geology and soils at this location will be severely altered. In the short-term, this area will lose topsoil and bedrock at the location of the active quarries. However, the area outside the active quarrying areas is expected to remain relatively undisturbed. Long-term quarrying plans for both the existing Spanish Springs Quarry and the Broken Hill Extension include detailed reclamation plans to restore general topographical patterns and restore vegetation.

Consequently, in the short-term the cumulative effects to the geology and soils are moderate, and in the long term, the cumulative effects to these resources are minor.

5.2.2 Alternative B: No Action

there would be no cumulative effects under the No Action Alternative. However, if the Proposed Action is not approved, the Broken Hill Extension may be developed in an alternative manner. One alternative includes transporting the mineral material to the existing processing facilities at the existing Spanish Springs Quarry by truck. This could lead to cumulative air quality and traffic impacts. Moreover, construction aggregate would have to be transported from a more distant location to the construction users in the Reno/Sparks metropolitan area, thus impacting cumulative air quality.

6.0 CONSULTATION AND COORDINATION

List of BLM Reviewers

The following individuals reviewed the report for technical accuracy and regulatory compliance:

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6.1 PUBLIC REVIEW

This EA had been available for public review and comment for a 30-day period. The comment period ended on April 28, 2011. No substantive comments were received from individuals, organizations or agencies consulted.

6.2 PERSONS, ORGANIZATIONS, AND AGENCIES CONSULTED

The following individuals from regulatory agencies, government, and other public entities were consulted on this EA:

Agencies

Nevada Division of Environmental Protection
Bureau of Air Pollution Control
Nevada Division of Environmental Protection
Bureau of Water Pollution Control
Washoe County Department of Comprehensive Planning
Nevada Division of Environmental Protection
Bureau of Safe Drinking Water

Individuals or Organizations

Max Bartmess, President Spanish Springs Pilots Association
Alan and Marcia Oppio, Oppio Family Trust
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Scott Nebesky, Reno Sparks Indian Colony
Greg Prough, Spanish Springs Citizen Advisory Board
Meridian Granite Company, c/o Baden Tax Management LLC
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Bill Whitney, Washoe County Community Development
David Homer, Tetra Tech

7.0 REFERENCES

National Oceanic and Atmospheric Agency, 1973, "Precipitation – Frequency Atlas of the Western United States," Volume VII - Nevada.

Nevada Bureau of Mines and Geology, 1969, "Geology and Mineral Deposits of Washoe and Storey Counties," Nevada (Bulletin 70).

Nevada Bureau of Mines and Geology, 2005, [Preliminary Geologic Map of the Griffith Canyon Quadrangle, Nevada](#). Map OF-99-4. www.nbmng.unr.edu.

Neel, L. (ed.). 1999. Nevada Partners in Flight, Bird Conservation Plan. The Nevada Partners in Flight Working Group.

Nevada Department of Agriculture (NVDA), 2010. Noxious Weed List. Online Address: http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm

Nevada Division of Environmental Protection, 1996, Inspection Sampling, Memorandum from Robert Speck, Bureau of Water Pollution Control to Sha-Neva Rocky Ridge file, dated July 2, 1996.

State of Nevada. 2005a. Division of Water Resources Well Log Database. Online Address: <http://water.nv.gov/>

State of Nevada. 2005b. Nevada Natural Heritage Program. Online Address: <http://heritage.nv.gov/>

U.S. Department of the Interior, Bureau of Land Management (BLM). 1986. Visual Resource Contrast Rating, BLM Handbook H8431-1.

U.S. Department of the Interior, BLM. 1997. "Environmental Assessment Spanish Springs Mineral Material Sale N-60222, Washoe County, Nevada." Sparks, Nevada 89431. April.

U. S. Department of the Interior, BLM. 2001a. "Carson City Consolidated Resource Management Plan." Carson City, Nevada. May.

U. S. Department of the Interior, BLM. 2001b. "Southern Washoe County Urban Interface Plan." Carson City, Nevada. January.

U.S. Department of the Interior, BLM. 2003. Nevada BLM Sensitive Species List. Dated July 1, 2003. Sierra Front FO, CCDO files. Carson City, Nevada.

U.S. Department of the Interior, BLM. 2005. "Environmental Assessment Broken Hill Access Road and Buried Utilities Right-of-Way, Washoe County, Nevada." Sparks, Nevada 89431. July.

U.S. Department of the Interior, BLM. 2007. Instruction Memorandum No. 2008-050. Migratory Bird Treaty Act - Interim Management Guidance. Dated December 18, 2007. Sierra Front Field Office files.

U.S. Department of the Interior, BLM. 2008a. Bureau of Land Management NEPA Handbook H-1790-1.

U.S. Department of the Interior, BLM. 2008b Instruction Memorandum No. 2009-039. Transmittal of Revised 6840 Special Status Species Manual and Direction for State Directors to Review and Revise Existing Bureau Sensitive Species Lists. Dated December 12, 2008. Sierra Front Field Office files.

U.S. Environmental Protection Agency (EPA). 2009. Code of Federal Regulations, Title 40, Chapter I, Subchapter C, Part 50, "National Primary and Secondary Air Quality Standards.

U.S. Fish and Wildlife Service, 2010. Nevada's Protected Species list. Online Address: http://www.fws.gov/nevada/protected_species/nevada_species_list.html. Accessed on March 18, 2011.

Washoe County. 2005. Census and Demographic Information. Online Address: http://www.co.washoe.nv.us/comdev/publications_maps_products/census_demographic/census_demographic_index.htm.

Washoe County Department of Comprehensive Planning (Washoe County). 1994. Washoe County Regional Open Space Plan. December 19.

Washoe County District Health Department, Air Quality Management Division (AQMD). 2007. Ambient Air monitoring Network Plan. Submitted to EPA Region IX: August 8, 2008.

Washoe County District Health Department, Air Quality Management Division (AQMD). 2008. Washoe County, Nevada Air Quality Trends 1996-2007.

Wildlife Action Plan Team. 2006. Nevada Wildlife Action Plan. Nevada Department of Wildlife. Reno, Nevada.